MEDICAL REHABILITATION

A Thesis presented for the Degree
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in the Faculty of Medicine,
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by

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PREFACE

This thesis is based upon the candidate's experience of medical rehabilitation over the past fourteen years. During that period, the United Kingdom experienced the upheaval of a major war, which was followed by the equally great challenge of peace. Significant and substantial developments have taken place in the field of medical rehabilitation, and these have coincided with a radical change not only in the psychological approach to the subject but in the handling of disabled people. The disabled are no longer left to their fate or liquidated as a liability, as was the practice in primitive times, and still persists in backward communities. We have also progressed beyond the attitude of mind which considered it appropriate to deal with the problem essentially on the basis of charity.

At the present time most of the responsibility rests with the State and is discharged through various statutory bodies. As will be seen in the historical survey which follows, while a certain overlap between these bodies is inevitable, the resolution of each problem requires co-ordination of facilities at each and every level.

The candidate has been responsible for the organisation in Great Britain of the first purely

out-patient medical rehabilitation centre, not attached to a particular hospital, dealing with medical, surgical, orthopaedic and neurological cases. In this thesis the role of such a centre is discussed and its organisation and staffing described, together with an analysis of one thousand three hundred and twenty-five patients who have been discharged from the Centre during its first three years. A small number of illustrative case histories are summarised, and a special survey is made of a group of patients suffering from traumatic conditions and with a legal problem concerning compensation. Their progress is compared with a series of similar cases who had no such problem.

The co-ordination of the work of the Centre with hospitals, general practitioners, industrial medical officers, and agencies other than medical will be described. It may be noted however, that no attempt will be made in this thesis, to discuss the special problems inherent in the rehabilitation of the blind, paraplegics, the tuberculous, spastics, epileptics, the deaf or patients who are mentally defective.

In the field of resettlement, the Industrial Rehabilitation Units and Training Centres of the Ministry of Labour and National Service, Remploy Ltd.,

and the detailed provisions of the Welfare Services will only be mentioned in so far as they impinge upon the "total approach" to the patient as exemplified by the Medical Rehabilitation Centre.

In Section V the candidate will give in detail certain conclusions based on his experience and confirmed by the analysis of the statistics of patients whom he has discharged during the past three years.

S E C T I O N O N E.

(a) Definition:

Medical rehabilitation is the process whereby a man is made, either wholly or in part, mentally, physically, socially, technically and economically equivalent to what he was before he became sick or injured. It is essentially a philosophy of living, an attitude of mind on the part of the medical profession and of the patient alike. Rehabilitation is more of an art than a science and is not intimately concerned with the minutiae and technicalities of apparatus used in physiotherapy and occupational therapy, except in so far as they contribute to the total situation.

(b) A Historical Survey:

There has been a tendency in recent years to suggest that there is something "new" about this subject, but the following facts will show that the present developments represent merely an extension and practice of principles which have been known for many years.

The earliest planned approach to convalescence in this country followed the construction of the Manchester Ship Canal which was built between 1888 and 1893. In such a project many thousands of men were involved and large

Figure 1

Sir Robert Jones, 1858-1933

numbers incapacitated. Sir Robert Jones provided a fracture service and included continuity of treatment. (Figure 1.)

In 1900 Dame Agnes Hunt, who was herself crippled at the age of ten, opened the first convalescent home for cripples in England, which later became the Robert Jones and Agnes Hunt Orthopaedic Hospital. Dame Agnes was also responsible for founding the first after-care clinics in 1907. In the early years of the century the Lord Mayor Treloar Hospital and College for Cripples at Alton, and the Heritage Craft School and Hospital at Chailey were opened, and provided vocational training for crippled children as well as treatment.

In 1912 a Committee of the British Medical Association reported on the results of treatment of 3,000 fractures, stressing that a good anatomical result did not necessarily mean a good functional result. Mal-union was present in 40% of the cases. (1)

During the 1914-18 War there were two outstanding developments in rehabilitation. In 1915 Sir Pendrill Vanier-Jones founded the Papworth Village Settlement - the earliest attempt to deal with the problem of the tuberculous in which emphasis on resettlement was considered as an essential part of the

planned programme for each patient. The second development again involved Sir Robert who established a number of rehabilitation departments in orthopaedic hospitals dealing with Service casualties.(2)

It is interesting to note that the reason for this development which spread overseas - the need to minimise the loss of manpower is precisely the same as was quoted when history repeated itself in the Second World War. In the words of an American physician:-

"The development of physical medicine and rehabilitation in America received its first impetus in World War 1, and American physicians owe a great debt of gratitude to Sir Robert Jones who, during World War 1, developed, at Shepherd's Bush, a service in physical rehabilitation, where approximately 400 young American surgeons were trained in the rehabilitation of men injured in war. These men then formed the nucleus of the reconstruction service of the United States Army. After World War 1 these physicians, and the technical workers who served under them spread into our civilian hospitals and inaugurated many of the programmes in physical medicine, which have expanded so rapidly since then." (3)

It is sad to realise that these lessons were soon forgotten and that little of practical value was done until after the outbreak of the Second World War. There were, however, a few valuable steps forward. In the early 1920's the Astley Ainslie Hospital was founded as the result of a bequest by the late David Ainslie. It was one of the earliest convalescent hospitals, as distinct from convalescent homes, and has the only occupational therapy training school in Scotland. Lt.Col.J.Cunningham, C.I.E., has been responsible for the development of the hospital since its earliest years, first as Medical Superintendent and latterly as Chairman of the Board of Management. Such a hospital, it may be noted, has tremendous potentialities and can form a "key" to the development of rehabilitation services in its area.

In 1935, the late Dame Georgina Buller founded the Queen Elizabeth's Training College for the Disabled at Leatherhead, and two years later St. Loyes College was opened at Exeter. The basic difference between these Colleges and previous developments was that they were not restricted to young persons, and the type of training was determined in relation to the employment vacancies available to the disabled person.

In 1935 a Report of a Committee on Fractures was published by the British Medical Association.(4)

It emphasised the appalling lack of after-care and suggested that an organised fracture service should be established with segregation of cases, undivided responsibility for each patient, continuity of treatment and after-care.

In 1936 an Interdepartmental Committee on the Rehabilitation of Persons injured by Accidents was set up under the chairmanship of Sir Malcolm Delevingne. It reported in 1939 and one recommendation concerned the establishment of rehabilitation centres.(5)

In the Second World War progress became more rapid as the result of the shortage of man-power both in the Armed Forces and in Industry, and in all three Services rehabilitation organisations were established. The late Group Captain O'Malley, C.B.E., converted the Officers' Convalescent Hospital at Torquay into the first of the Service rehabilitation units in 1940. He infused into the older conceptions of convalescence a new spirit of active recovery. The candidate had the privilege of serving under him at the largest medical rehabilitation unit in the Royal Air Force, at Loughborough. He was later given the responsibility, as Senior Medical Officer, of opening the Centre at Collaton Cross in Devon.

It is interesting and significant to recall the groups of American Army personnel, seconded to

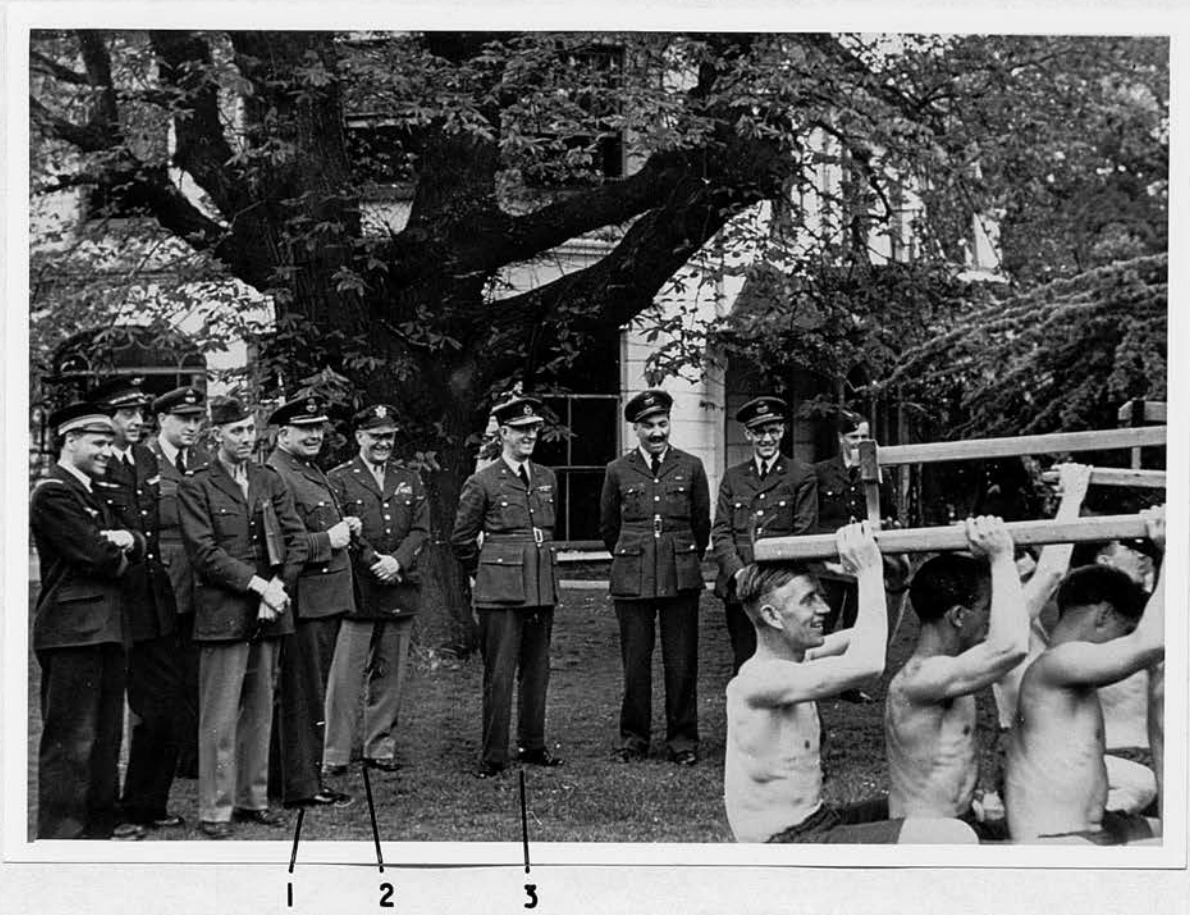


Figure 2

Allied Air Force Medical Personnel at
No. 3 R.A.F. Medical Rehabilitation Unit, Loughborough

(1) Group Captain O'Malley, C.B.E.

(2) Surgeon-General United States Air Force

(3) Director-General Medical Services, Royal Air Force

Loughborough, whom one helped to teach the principles of medical rehabilitation. It is a sad reflection that both the Americans and ourselves were compelled to re-learn lessons which had been so well taught in the First World War. (Figure 2)

In the Air Force Centres during the Second World War over 20,000 patients were treated at such special residential Rehabilitation Units. During the same period over 153,000 were treated as out-patients. Patients passed through the Medical Rehabilitation Unit at Loughborough at the rate of approximately 3,500 per year. The contributions of such orthopaedic surgeons as Sir Reginald Watson-Jones and Mr.H.Osmond-Clarke were invaluable.

As a result of the team work between the units the hospitals and the stations, 77% of patients returned to full duty, 18% were retrained or returned to modified duties and 5% were invalided from the Service. The average total disability period was 19 weeks. The stay at a rehabilitation Centre was 9 weeks.(6)

While rehabilitation services were being developed in the Armed Forces, facilities were being expanded rapidly under the Emergency Medical Service of the Ministry of Health and the Department of Health for Scotland. The late

Dr.Peter J.MacLeod established the first residential centre for miners at Gleneagles. The candidate worked under his direction for six months before joining the Royal Air Force and it was there that his interest in rehabilitation was stimulated. The close team-work between Dr.MacLeod and Mr.Ian Smillie, the Consultant Orthopaedic Surgeon, had a great influence on the success rate which was achieved. The Fitness Centre was transferred to Bridge-of-Earn Hospital after the end of hostilities and is now directed by Dr.Graham.

In Industry, rehabilitation facilities were developed by the late Dr.Moore at Crewe for railway workers, by Sir Hugh Griffiths at the Albert Dock Hospital in London for dock workers, and by the Austin and Vauxhall Motor Companies for their employees.

In 1941 the Ministry of Labour and National Service introduced a scheme for the training and resettlement of disabled persons and in 1943 the Report of the Interdepartmental Committee on the Rehabilitation and Resettlement of Disabled Persons was published (Tomlinson Report).(7) Its first conclusion stated:-

> "Rehabilitation in its widest sense is a continuous process, partly in the medical sphere and partly in the social or industrial

sphere. The medical side, in spite of the developments brought about under the Emergency Hospital Scheme, still falls short of what is required, and as long as this continues to be so, the problem of rehabilitation at the post hospital stage is correspondingly more serious and extensive. In the meantime, concerted action is necessary to see that the existing hospital facilities are used to the best advantage of those in need."

In 1944, the Disabled Persons (Employment) Act was passed. It was inspired by the Tomlinson Report and has improved the facilities for the resettlement of the disabled. Two years later, a Standing Committee, which was set up by the Ministry in 1944,(8) and once more in 1949,(9) reported on the rehabilitation and resettlement of disabled persons. In 1947 the Department of Health for Scotland issued the report of a Medical Advisory Committee on Rehabilitation.(10) This report includes a description of the Fitness Centre at Gleneagles by the late Peter J. MacLeod. The National Health Service Act of 1946 provided a health service for the whole community, and was followed by the National Insurance Act, 1946, which provides retirement pensions, maternity benefits, sickness and unemployment benefits. In the same year the

National Insurance (Industrial Injuries) Act was passed which replaces the Workmen's Compensation Acts and provides benefits and pensions for those injured or developing a prescribed disease at work.

Local Authorities have power under Section 28 of the National Health Service Act,1946, and under Sections 29 and 30 of the National Assistance Act,1948, to make provision for rehabilitation services. Most of these powers are permissive and relatively few Authorities fulfil these obligations. A striking exception is the London County Council which provides a comprehensive service for disabled people in its area, while in contrast Middlesex County Council still has practically embryonic facilities while the boundaries of the two Councils impinge within the greater London area.

In March 1953 another Committee was appointed, jointly by the Minister of Labour and National Service, the Minister of Health and the Secretary of State for Scotland. The Report of the Committee of Inquiry on the Rehabilitation of Disabled Persons, which met under the Chairmanship of the Right Hon.Lord Piercy, C.B.E., was published in November, 1956.(11) This Committee collected evidence, both written and oral, from many sources throughout the British Isles.

The candidate had the honour to be invited to join the Committee of the Royal College of Surgeons, Edinburgh, which prepared a Report for the Piercy Committee. This Report does not lend itself to summary but it reviews the situation as it existed ten years after the publication of the Tomlinson Report. The main conclusions and recommendations, so far as the purely medical aspects of the Report are concerned, are as follows:-

(1) No comprehensive figures could be compiled to show the number of handicapped persons in the country and it is recommended that an inquiry be made to find out how many persons receiving sickness benefit for more than six months could be assisted in a return to work, if suitable rehabilitation or resettlement facilities were available.

(2) The Committee recommends that hospital boards "review and reorganise their present arrangements for physiotherapy so as to secure a purposeful graduated programme of activity designed to restore full function and to reorient the patient's outlook from that of an invalid to that of a responsible worker." It also recommends the development of additional facilities, either in day or residential centres.

(3) It recommends the setting up of resettlement clinics at each major hospital.

(4) It recommends the setting up of a rehabilitation committee or sub-committee at Regional Hospital Boards and by Boards of Governors of teaching hospitals.

In the preface mention was made of the changing attitude to the disabled and the titles of some of the Reports quoted confirms this:-

1912 Report of a Committee on the treatment of Simple Fractures.(1)

1935 Report of a Committee on Fractures.(2)

1939 Final Report of the Inter-departmental Committee on the Rehabilitation of Persons Injured by Accidents.(5)

1946 Report of the Standing Committee on the Rehabilitation and resettlement of Disabled Persons.(8)

1956 The Rehabilitation, Training and Resettlement of Disabled Persons.(11)

These titles show the gradual growth of the appreciation of the problem - the gradual increase in the scope of the investigations - the shift in emphasis from the simple fracture in 1912 to the entire field of rehabilitation in 1956.

This historical survey appears to show that, except in time of war, more work appears to be

AIMS IN REHABILITATION:–

PHYSICAL — exercises, remedial games, physiotherapy, occupational therapy.

TECHNICAL – vocational training.

MENTAL
SOCIAL
> INSTILLING the SPIRIT to get WELL.

Figure 3

expended on producing reports by Committees than in taking practical steps to resolve the problems. This is not strictly accurate. As a result of the work of medical and lay pioneers, assisted by progressive legislation, Great Britain possesses provisions for the disabled which are more comprehensive than anywhere else in the world, although one does not overlook the interesting progress which is being made in countries such as Finland and Sweden. Much still remains to be done, and it is this challenge which sustains all who work in this field.

(c) AIMS AND BASIC PRINCIPLES OF MEDICAL REHABILITATION

Aims in Medical Rehabilitation

The aims have already been mentioned by name in the definition of medical rehabilitation but they require elaboration as they form the basis of this work. (Figure 3)

(i) Mental:

Scant attention is paid in acute hospitals to the patient's fears, especially as he is frequently unable to express them coherently. Recovery is frequently delayed by anxiety and lack of knowledge. On admission to hospital the patient is afraid of pain, afraid of possible surgical intervention, afraid of the possibility of residual incapacity

and there is a very real fear of financial hardship involving both himself and his family. When he is improving, two new fears creep into his mind; the fear of possible industrial degradation, and the fear of litigation.

The restoration of morale is the primary problem, and good handling of the patient at this stage is as important as good definitive treatment if he is to be restored to health with the minimum delay.

Squadron Leader Hector Bolitho, who was a patient at the Royal Air Force Medical Rehabilitation Unit at Loughborough, quoted Lord Moran in an article in the "Humerus" - a unit magazine:-(12)

Lord Moran

"Courage is a moral quality; it is not a chance gift of nature like an aptitude for games. It is a cold choice between two alternatives, the fixed resolve not to quit; an act of renunciation which must be made not once but many times by the power of the will."

Squadron Leader Bolitho continues:-

"For those who do not die there are two more enemies standing in their path, more sombre than death, to be conquered by courage. The two figures are Despair and Disillusionment, and to defeat them squeezes the last drop of courage out of a man:

more than he needs to vanquish Death ....

Jimmy Ward's most valiant moment was not when he climbed on the wing of a blazing bomber to stifle the flames, but when he tore up a Doctor's note which might have excused him from flying again. Courage makes sick and maimed men shed their self-pity like an evil skin."

Self-pity is a natural phenomenon in men who are sick or injured. It is fostered by the individual care which they receive in hospital, emphasised by the attention of their relatives and increased by friends who always appear to know an infinite number of people with the same condition who never recovered completely. In some cases, self-pity is encouraged by the sensational newspaper accounts of their experiences. The establishment of a balanced outlook, the elimination of self-pity, the rationalisation of the treatment prescribed, and the constant example of the staff and other patients are essential to the successful application of rehabilitation methods.

The patient must be imbued with the spirit to get well. An evaluation of mental and social rehabilitation is given in Section V.

(ii) Physical:

It has been stated that rehabilitation "should start in the ambulance" and it is a

> 'sine qua non' that the primary treatment, both medical and surgical should be of the highest standard. The patient's own recuperative powers are the special factors which bring about the resolution of the patient's illness under medical care. Many disabilities are temporary in character and disappear with standard types of treatment, and it is when the restoration of function may be delayed that rehabilitation procedures are particularly valuable and cut down the period of convalescence.

"The first step in the process of rehabilitation is the establishment of a diagnosis.

The chief feature of the examination is not the medical description of the defect but the appraisal of the patient's positive physical capacity. The emphasis is not on cardiac disease but on cardiac reserve; not on the fact that the tuberculosis is arrested but on the patient's work tolerance; not on the patient's hemiplegia but on his achievements in daily life; not on the paraplegia but on how effectively the patient adjusts himself to the routine of life." Kessler H.H.(13)

The ultimate aim of treatment is the restoration of capacity to work:-

Physical agents employed are:-

(1) Remedial exercises and games
(2) Physiotherapy
(3) Occupational Therapy
(4) Vocational assessment

} As described in Section Two.

(iii) Social:

It has already been stated that, without the will to work or the will to get well, little progress can be made. The problem is to stimulate the dormant apathetic mental attitude of the sick or injured man - to establish motivation towards recovery.

This is achieved by the environment of the rehabilitation centre, the personalities of the staff and by an understanding design for living. Every evening in residential centres there should be some organised entertainments. All tastes must be catered for and the patients should participate actively, through their Committee, in the organisation of the weekly programme. A library is invaluable and should include reference, scientific and fictional books. Talks can be arranged by prominent speakers and patients can give brief appraisals of their employment.

(iv) Technical:

All the effort and skill applied in the physical, mental and social rehabilitation

of a patient is dissipated if he is not placed in suitable work. The patient who returns home and fails to find suitable employment soon becomes demoralised. It has been found to be quite inadequate to leave this to the patient himself. Arrangements must be made for the absorption of these men into their own work if they are capable of it and, if not, for their obtaining suitable light work until they become fit for full work. In certain cases retaining a degree of incapacity, it is necessary to make arrangements for a permanent light occupation. Such arrangements will require accurate assessment of the patient and may include training.

(v) Resettlement:

The patient whose recovery is complete presents no problem in disposal. When he is adjudged unfit for his previous occupation, difficulties arise in his resettlement. This is the term applied to evaluating a patient, not in terms of his disability but of his residual ability and then placing him, possibly after suitable retraining, in an occupation. The occupation should be within his physical and mental capacity and

should provide a long-term outlet for his energies and ambitions, if this is at all possible. Too often, the question of training is raised at an early stage with the patient, who assumes that it is inevitable. When this subject should be raised requires careful consideration by the whole "team" involved in the problem. Some statistical evidence concerning the need for training facilities is presented in Section IV.

The assessment of an occupational, as distinct from a physical, handicap should be made as early as possible in the treatment of a patient and his plan for the future modelled with this in mind. This assessment can only be reached after the various members of the team have pooled the results of their investigations. This assessment may require modification from time to time.

There are so many varied occupations in this country that it is difficult to believe that suitable work cannot be easily found for the vast majority of disabled persons. However, the social circumstances of the individual enter into the problem in every case. Light industries are not

evenly distributed throughout the country. In the West of Scotland and in Lanarkshire most of the industries, such as mining, heavy engineering and shipbuilding, require a high standard of fitness. Here, patients are often severely disabled, and their resettlement is complicated by the small number of vacancies in light industry in these areas and the difficulty in persuading a man with a wife, family and house to move to another area with all the resultant upheaval of residence, schooling and loss of social contacts. In the greater London area the difficulties are less acute as there is a wider variety of work available. On the other hand the problem of the resettlement of the disabled agricultural worker is particularly difficult.

Within the past few months, Dr.Russell Grant at Winchester has initiated a scheme to try and resolve the problem. He has produced facilities for assessing such patients adjacent to the hospital and formed a Committee which includes representatives of large local farms in the area. No figures are yet available, but they are awaited with interest.

It has been estimated (Baruch Committee)(14)

that 97% of all handicapped persons can be rehabilitated to the extent of gainful employment. This may well be the case, but it requires continuous effort, encouragement, research and improvisation on the part of the "Rehabilitation Team" to achieve results approaching this figure.

Basic Principles of Medical Rehabilitation:

Medicine, of all studies, is the most social in its outlook, but the continued growth of specialisation has had the unfortunate effect that, while a particular part of a patient may be more and more effectively treated as time goes on, the patient as a whole is not. The splitting-up of the body and the mind into relatively self-contained compartments can produce a somewhat myopic view of the problem. No man is an island and it is a basic principle in medical rehabilitation that the individual should be orientated not only in regard to himself, but in relation to his place in society.

It is perhaps something of a paradox that the "specialist" in medical rehabilitation concentrates on a subject with the widest possible terms of reference. He considers himself a member of a team directed towards the patient as a whole, and the members of that team and the agencies employed act as a constant reminder of the complexity of the subject, and that problem has to be faced

each time one is confronted by a patient. For example, the problem of the amputee cannot be resolved by merely furnishing him with an artificial limb. He requires adequate surgery, pre-prosthetic training of the stump, selection, fitting and servicing of the prosthesis and systematic training in the use of his limb. Such training must take into consideration, among other factors, his age and certain associated disabilities, the problems of further employment, the social and mental re-adjustment which is required, and the possible legal implications.

There is, as is well known, a huge gulf between the acceptance of a principle and its being implemented. Such is the case with team work. The success of an organisation depends largely upon the competence of the staff and its ability to work as a team, and demands the willingness to lead a team by the person in charge.

Careful staff selection is essential, and positive steps must be taken to ensure that each member of the team is given the fullest possible opportunity to play his or her part. Each must be prepared, when the occasion demands it, to subordinate the ego to the primary objective. The inter-personal relationships of the staff require constant supervision as do their relationships with the patients. When a member of staff

become emotionally involved with a patient's problems he or she is then unable to assess them properly. This subject is referred to again in Section Two (h).

Disablement is usually associated with a physical injury or handicap which is apparent, and it is popularly but erroneously supposed that this type constitutes a greater bar to employment than disablement, from other causes. In fact, certain medical conditions such as rheumatic heart disease, epilepsy, pulmonary tuberculosis, chronic bronchitis and asthma and certain psychiatric states - unstable disabilities - constitute a far more difficult problem than the amputee, the hemiparitic or the badly burned.

Proper control is essential in any organisation, and undoubtedly so in rehabilitation. Existing legislation differentiates between medical and industrial rehabilitation and while such a distinction is useful administratively, it should never be overlooked that rehabilitation is a continuous process which starts as a purely medical problem and requires continued medical supervision until finality is reached. The process might, it is submitted, have a greater chance of success if all the services which go to rehabilitating a patient worked as a single unit. Such an

arrangement would help to produce the team work essential to success, but the difficulty lies in producing a practical scheme which would implement this principle.

Some observations on the steps which are taken in this respect, at the Medical Rehabilitation Centre, London, are outlined in Section Two.

(d) In-patient and Out-patient Medical Rehabilitation Centres.

A rehabilitation centre consists of a combination of highly specialised services concentrated in one place where trained staff, with adequate equipment, are available to expedite a patient's recovery and plan his resettlement. This is achieved by a balanced programme of remedial exercises, physiotherapy and occupational therapy carried out to a regular schedule. An individual programme is implemented for each patient and this programme is adjusted pari passu with the progress of each case. At a medical rehabilitation centre continuity of treatment following hospitalisation can be ensured.

It is difficult to be dogmatic about the ideal size of a centre. The candidate believes that the number of patients treated per day should not exceed one hundred and fifty. If larger facilities are required in

a particular area, this is an indication for the establishment of a second centre. This is an arbitrary figure, but it is a fallacy to suggest that the larger the centre the better the service provided.

The 'atmosphere' of the centre is of the highest importance and it is difficult to weld a diversity of patients into a therapeutic community if the numbers under treatment at one time are excessive. The candidate has reached this conclusion after working in nine centres with a capacity varying from thirty-five to seven hundred patients. In the former the numbers proved too small to provide an economic use of the staff or equipment, while in the larger centre the patients tended to overwhelm the staff, all sense of individual consideration and treatment was lost, and the control of disability groups was impaired.

The basic organisation can be identical for both out-patient and in-patient centres and no great problem would be produced by treating out-patients at a residential centre. The organisation described in Section Two could be readily adapted to a residential centre. Experience at the Medical Rehabilitation Centre, Camden Road, London, suggests that the need for more residential centres is not so

Figure 4

Garston Manor Rehabilitation Centre,

near Watford, Hertfordshire.

urgent as was once believed. Many patients have spent long periods of time in hospital and are only too anxious to return home and resume their proper niche in the household and in the community. If they can do so, and attend daily for whole-time treatment at an out-patient centre, this is obviously desirable.

There is a tendency for the in-patient centre to produce a rather cloistered environment which is not always to the patient's advantage. (Figures 4 and 5). If this can be avoided by out-patient treatment, it should be so arranged. The patient who leaves hospital for home and then attends daily at an out-patient centre, goes out each day to work to get better. He is thus conditioned to accept that the next logical step will be to go out each day to work. While he attends the out-patient centre, he is subjected to a discipline which he accepts in the same way as that of the factory. He has relatively little opportunity to become introspective and is insulated from the well-meant, but none-the-less disabling over-solicitude of anxious relatives and friends throughout the day.

Figure 5

Patients returning to residential accommodation from treatment block at Garston Manor Rehabilitation Centre

Certain patients must attend a residential centre for a variety of reasons. Some are too severely disabled to travel daily, even by ambulance, to a day centre, while others suffer unsatisfactory housing conditions or have inadequate attention at home, or in some cases the attitude of the family is unsatisfactory.

An analysis of one thousand six hundred and fifty-seven applications for treatment at the Medical Rehabilitation Centre at Camden Road shows that under 1% were considered unsuitable because of the lack of residential facilities. However, this figure is not regarded as particularly significant since the applications were made to an out-patient centre.

The out-patient centre is basically a "day hospital". It is to be hoped that such centres will be attached, in the future, to all large hospitals and that an "independent" centre, such as that described in Section Two, will only be developed in rural or semi-rural areas to serve the needs of a number of small hospitals, none of which could support such an organisation.

Few would argue today against converting the majority of convalescent homes into

residential rehabilitation centres. The dangers of bed rest are now so apparent, the hazards of uncontrolled activity so great, that the balance between rest and activity must be "prescribed" with the same care as a bottle of medicine. This is not carried out at many convalescent homes and the value of ozone as a potent factor per se in expediting recovery is now discounted.

The results achieved by co-ordinated efforts at such centres considerably reduce the total duration of disability. Such centres must be asked to play their part at the right time and there is still too common a tendency to consider rehabilitation facilities as part of a "salvage service". In surgical and orthopaedic conditions in particular, it can be said that, the earlier a patient is transferred to a centre the shorter the total disability period. Such a reduction is worthwhile, firstly, because of its advantage to the patient and his family; secondly, because of the saving of money paid in benefits; and thirdly, by the increase in production resulting from earlier return to work.

In England, the average cost of keeping

a patient in general hospitals is about £18 per week. (In teaching hospitals it can be as high as £35 per week.) The cost of treating and maintaining a patient at a residential rehabilitation centre should not exceed £10 per week. It may be noted that the total cost per patient day at the Medical Rehabilitation Centre, Camden Road, London, is approximately £1. Early transfer of a patient to a centre will obviously conserve expensive hospital beds and increase the turn-over of such beds, thus reducing waiting lists.

Generally speaking, rehabilitation centres should accept a cross-section of the community. "There was, and still is, a tendency to produce specialised rehabilitation centres to treat specific disabilities. To my mind, this is wrong with a few obvious exceptions. By all means segregate the tubercular, while activity is still present; by all means segregate the more florid varieties of mental disease; by all means segregate the cases of poliomyelitis and paraplegia in the early stages when a specialised team can produce impressive and invaluable results; but always remember one thing, patients are being rehabilitated to return home and take their place in a normal

community, whenever this is humanly possible, not to live an artificial life in a protective environment." (Sommerville) (15)

The late Dr.P.J.MacLeod soon realised the need for a "mixed" centre at Gleneagles and later at Bridge of Earn. At first, the Fitness Centre would accept only miners, but facilities were then extended to all workers in heavy industry and ultimately to all patients in need of the facilities.

Viewed sociologically, most individuals lead exceedingly sheltered lives and have little idea, and often many misconceptions, as to how the rest of the community lives. If a rehabilitation centre, by providing an opportunity for social intercourse, can widen the patients' horizons, as well as expedite their recovery, such an influence is not readily to be ignored.

It is essential to mix long and short-term cases at a rehabilitation centre, and experience at the Medical Rehabilitation Centre, Camden Road, London, suggests that a reasonable ratio of short to long-term cases is 60% to 40%. If the number of long-term cases is allowed to exceed this figure, the tempo of the work falls rapidly. There is an insufficient "turn-over" of patients and eventually the centre is full of severely disabled people, a high tempo of endeavour and

and activity becomes impossible and the usefulness of the centre diminishes.

An average of eight to ten new patients commence treatment each week at the Medical Rehabilitation Centre, Camden Road, London, and a corresponding number is discharged. It is not realised sufficiently widely how important is this balance between short and long-term cases, and how mutually beneficial it can prove.

S E C T I O N T W O.

Detailed Organisation of the Medical Rehabilitation Centre, 152, Camden Road, London, N.W.1.

(a) Previous History:

For many years prior to the establishment of the National Health Service, the Institute of Ray Therapy had produced a valuable service for the surrounding area at 152, Camden Road, London, N.W.1. There was a large staff of physiotherapists and the emphasis was on purely passive treatment - in particular the various therapeutic uses of ultra-violet light.

On the appointed day this Institute came under the control of the North West Metropolitan Regional Hospital Board and direct responsibility was vested in the Paddington Group Hospital Management Committee. The Institute had a private and a public department and, as the local facilities at the neighbouring hospitals improved, the demand for treatment fell slowly but surely. In 1954 it was decided to convert the Institute into an out-patient medical rehabilitation centre and its part-time medical direction was entrusted to Group Captain O'Malley, C.B.E., who was then adviser in rehabilitation to the

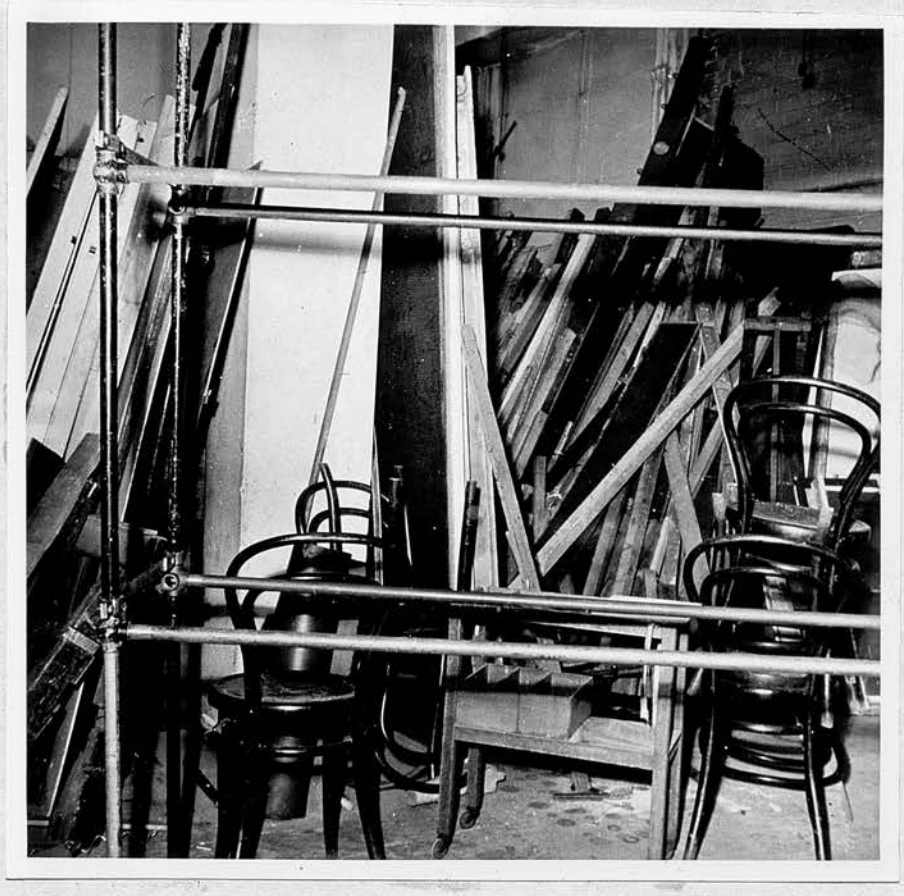


Figure 6

A corner of an old lecture room which was converted into the Light Workshop - see Figure 45

North West Metropolitan Retional Hospital Board and Medical Director of Garston Manor Medical Rehabilitation Centre, Watford, Herts.

In view of his other commitments, Group Captain O'Malley approached the candidate who, on 1st June, 1954, commenced, as Deputy Medical Director, the task of converting the building for its new purpose. Very little money was available and it was laid down that the previous total expenditure upon staff salaries was not to be exceeded in the new establishment.

There were still about fifty patients attending for treatment, and the first priority was to arrange suitable treatment elsewhere in order to leave the building free for conversion. This stage was completed in about six weeks.

Apart from essential maintenance, no work had been carried out on the building for the previous ten years. In addition three large rooms had not been used for about fifteen years and were filled with derelict apparatus and furniture. (Figure 6)

There were certain basic objectives to achieve before the Centre could accept the first patient:-

Figure 7

Medical Rehabilitation Centre, 152 Camden Road, London, N.W.1.

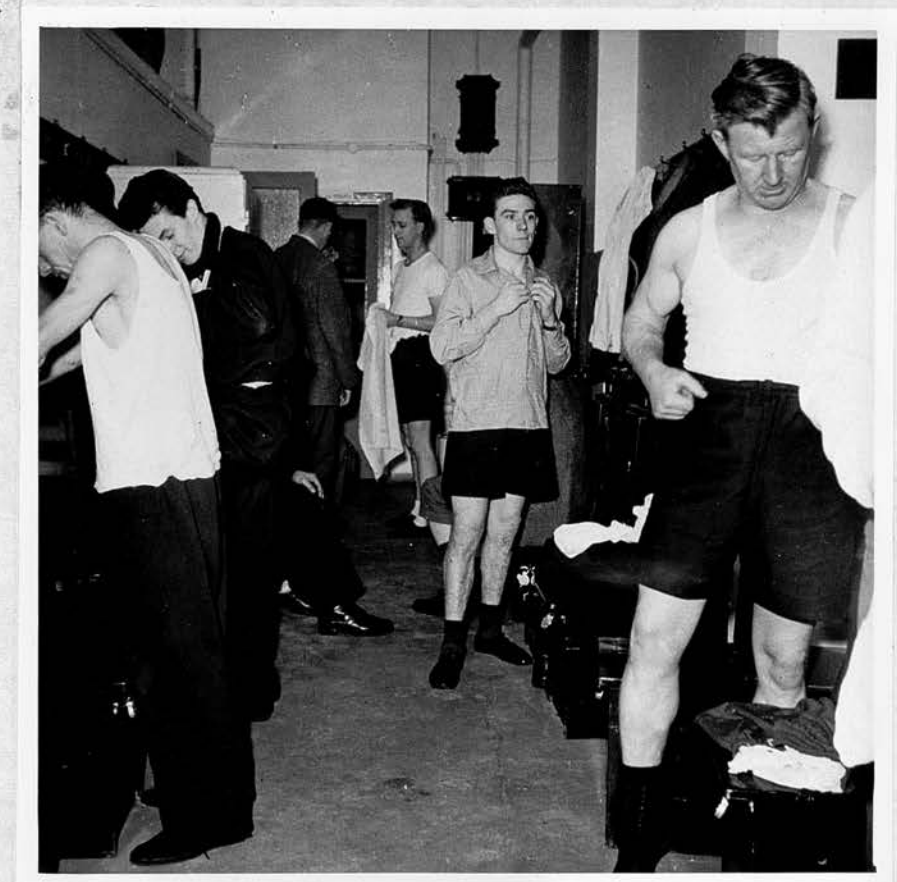


Figure 8

Male changing accommodation

(i) Selection of suitable staff:

Senior staff applicants were interviewed by a Committee at the Hospital Group which included the Deputy Medical Director. Junior staff were interviewed at the Centre. The roles of the respective members of staff are defined in Section Two (h).

(ii) Provision of space within the building:

The Centre consists of two semi-detached Victorian houses facing Camden Road which have had a large building added at the rear thus covering over both back gardens of the houses. (Figure 7). It has two floors and a basement under the front half of the building. The floor space to provide gymnasium facilities was obtained by removing thousands of feet of cubicle railing and hundreds of square yards of wooden and breeze block partitioning which had been used to provide individual cubicle accommodation for each patient.

(iii) Changing Accommodation for 50 patients (male and female)

This was necessary in order that the patients could be clothed in suitable garments to carry out the daily programme. (It has since been increased to deal with eighty patients per day). (Figure 8)

Figure 9

Medical treatment room

(iv) Dining Room facilities:

A small kitchen was available, but it needed to be modernised, and at present provides over 100 cooked meals per day.

(v) Medical Treatment Room:

For the use of the nursing sister with facilities for sterilisation of syringes, hot and cold water, storage space for drugs and dressings, and equipment for simple diagnostic procedures. The former private patients' canteen was adapted for this purpose. (Figure 9)

(vi) Offices for Social Service Officers and Clerical Staff.

(vii) Occupational Therapy Departments.

(viii) Conference Room and Educational Centre:

This is used for all remedial meetings, new patients' meetings, general staff meetings and as a lecture room when groups of visitors or students are received.

(ix) Early Mobilisation Room (Physiotherapy Department)

One of the existing rooms was retained for this purpose. Cubicle rails were removed and surplus equipment dispersed within the hospital Group.

(x) Male and Female Staff Changing Accommodation and Staff Common Room.

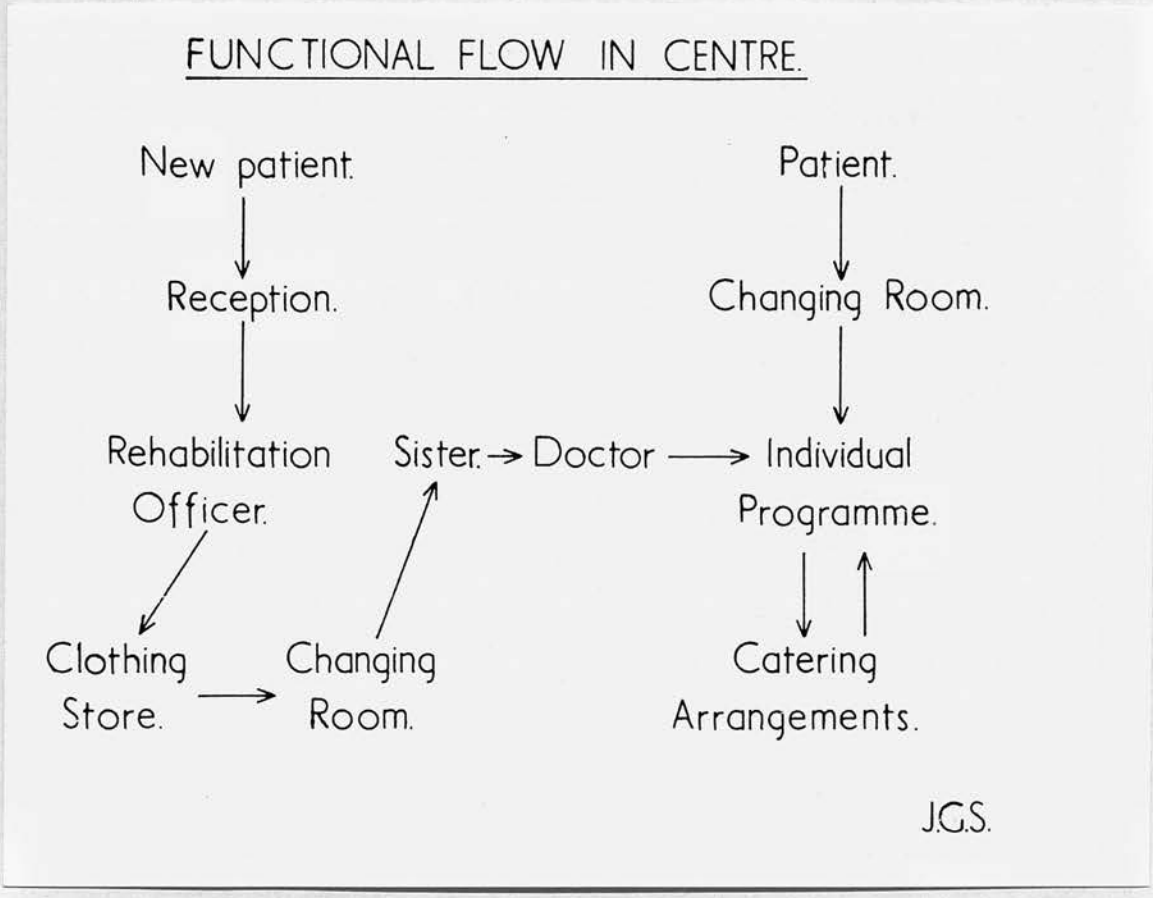

FUNCTIONAL FLOW IN CENTRE.
New patient.
Reception.
Rehabilitation Officer.
Clothing Store.
Changing Room.
Sister.
Doctor
Patient.
Changing Room.
Individual Programme.
Catering Arrangements.
J.G.S.

Figure 10

(xi) Clothing Store - for patients' clothing.

All alterations were completed, staff engaged and clothing and equipment delivered by October of the same year. The first patient commenced treatment on the 18th of that month and, within six weeks, the Centre was working to capacity.

(b) Functional Flow:

Having decided upon the basic requirements, it was necessary to establish a functional flow within the building to prevent patients and staff constantly retracing their paths and thus impeding the efficiency of the organisation. The diagram, (Figure 10), shows the flow in schematic form. The allocation of all accommodation had to be determined with this diagram in mind. The flow had to be achieved within the limitations of the existing building and with the least possible expenditure. The total initial cost of converting the building and providing equipment for the new organisation did not exceed three thousand pounds.

It should be noted that there are separate entrances for new patients and patients under treatment, yet both groups filter through to the same objective - the individual daily programme.

(c) Aims and method of treatment:

The aims are to restore function in the

following groups:

(i) Long and short term traumatic and orthopaedic cases.

(ii) Patients suffering from arthritic and rheumatic conditions, when the disease is stabilised.

(iii) Patients with residual disabilities following acute medical and surgical conditions.

(iv) To attempt to maintain and, wherever possible, improve function by rehabilitating the chronic incapacitated e.g. patients suffering from anterior poliomyelitis, rheumatoid arthritis, multiple sclerosis, and the sequelae of cerebro-vascular accidents.

The Centre is designed to treat people rather than disabilities - an aim which is not implemented in every rehabilitation Centre in the United Kingdom. This is discussed in more detail in Section Five.

The culture of the Centre is one of recovery with the emphasis on capability rather than on disability, every attempt being made to foster the existence of a therapeutic community which believes in self-help and mutual help; self-discipline and mutual discipline.

Patients accepted for treatment attend daily, Monday to Friday from 9.15 a.m. to 4.45 p.m. and follow a balanced programme of remedial exercises,

physiotherapy and occupational therapy. The treatment is discussed in more detail later in this Section. Patients unable to attend for a whole day may be accepted on a half day basis, but no patient can attend for less than a half day programme. Originally an average of approximately fifty patients attended daily, and this number has been increased to seventy seven at the time of writing.

(d) Facilities and Equipment

Gymnasia:

There are two large and one small gymnasia. The former are on the ground floor and inter-communicating, the small one adjacent to the physiotherapy department and on the first floor. Equipment is very simple and comprises:-

Balancing Benches

Stools

Stacking chairs

Wall bars

Large wall mirrors in small gymnasium

Medicine balls of various weights and sizes

Delorme resistance apparatus

Ash sticks

Courts are marked out for badminton, padder tennis and net-ball.

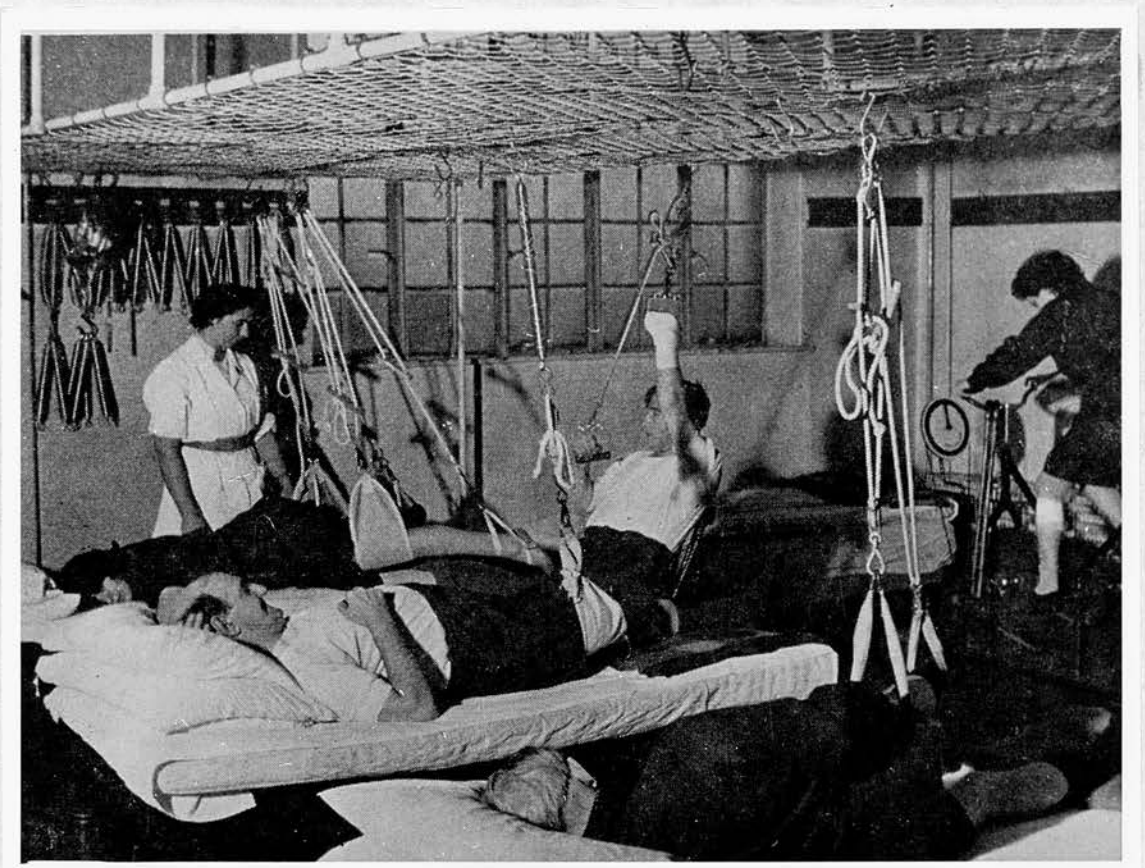


Figure 11

Suspension apparatus in use in Physiotherapy Department

Physiotherapy Department:

This is a large airy room adequately equipped with such items of equipment as short-wave diathermy machines, infra-red tunnels, radiant heat lamps, combined treatment tables, Ritchie-Sneath Stimulator, Kromayer ultra-violet light apparatus, hot paraffin wax and hot sand baths. A full range of suspension apparatus was designed by the candidate to utilise the surplus steel cubicle railing which had been removed from the building. This was attached to the ceiling instead of the floor and heavy gauge industrial netting strained across it by "Jubilee" clips. This piece of apparatus (Figure 11) provides multi-point suspension for at least four patients at a quarter of the cost of its commercial equivalent. Technically, it is more versatile and staff find it easier to use.

A mobile hydraulic hoist is available to move severely disabled patients. (Figure 12). Bicycle pedals, with an adjustable resistance, are fixed to the walls behind three of the plinths, and are used to allow purposeful activity in elevation for patients with oedema of the lower limbs. (See also Section Two (m).)

Occupational Therapy Department:

This consists of a light workshop,

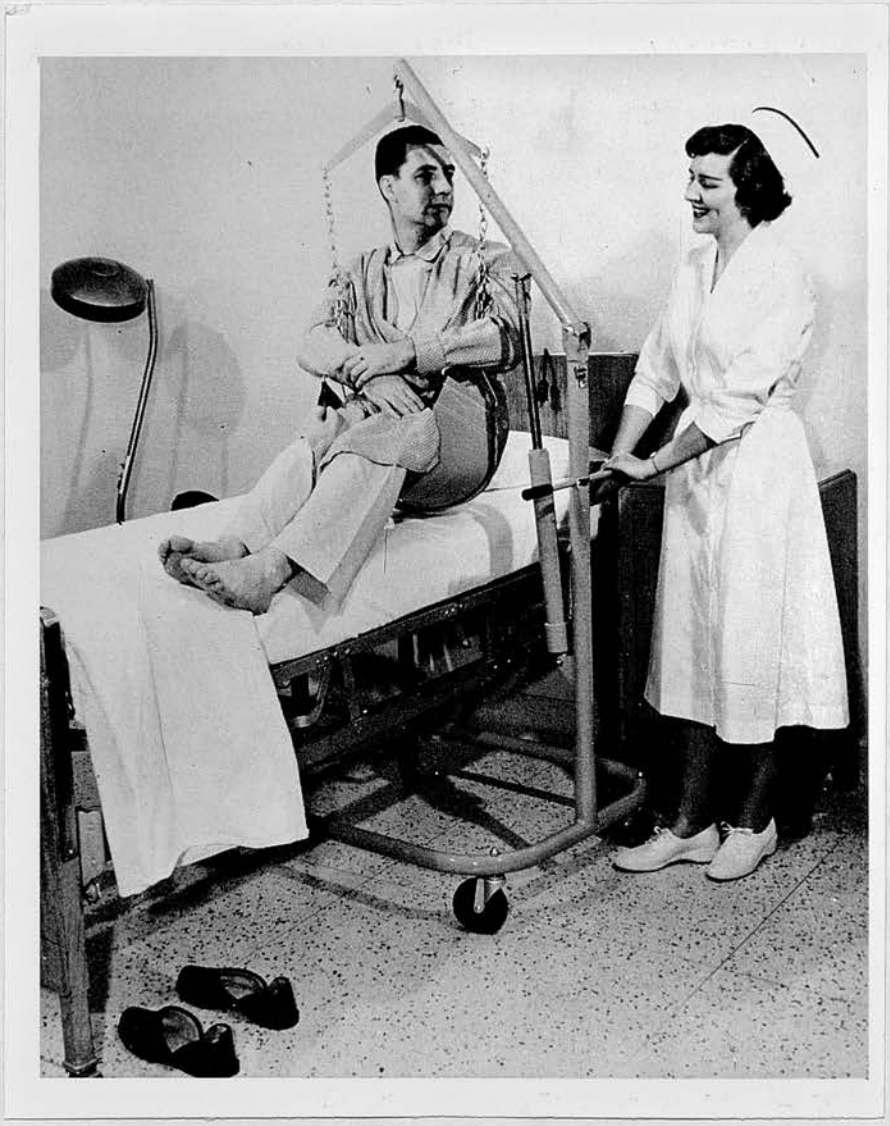


Figure 12

Hoyer Hoist

including a "kitchen unit" a heavy workshop, and a small room where severely disabled patients are assessed in relation to the main problem of achieving independence. Simple "aids" may be required like a long-handled shoe-horn, loop on the end of a tie, bath seat, Nelson knife, and a device to pick light objects from the floor. Most of these can be made by the patients or staff, for a few pence, from scrap material.

The equipment in the light workshop includes sewing machines, typewriters, filing equipment, dummy G.P.O. switch-board, printing machines, a kitchen unit and materials for such crafts as basketry and leather work. Experience over the past three years has shown that only two small looms are necessary.

The kitchen unit consists of a work surface 36" from the ground, which extends round three sides of a square, from the kitchen sink to the electric cooker. The taps above the sink are sufficiently high to allow a saucepan to be slid under them without being lifted. Equipment such as potato-peelers, mixing bowls, tin and jar openers which can be used by hemiplegic patients is provided. It may be noted that the entire unit, except the sink and the

cooker was built and installed by the less disabled patients.

In the heavy workshop, equipment includes carpentry benches with adequate tools, a forge, pipe-bending apparatus, two treadle and two power-operated lathes, electric vertical drilling machine, two treadle fret-saws. There is also a shoe repairing section with a heavy duty leather sewing machine.

The contribution of this department to the work of the Centre is referred to in Section Two (n).

Patients' Clothing:

All patients are provided with appropriate clothing to allow them to carry out their programme. Male patients have a blue track suit, blue shorts, white vest and gym shoes; female patients have a white shirt, blue divided skirt, knickers, gym shoes and a blue track suit. Sufficient stocks of these articles must be held in various sizes to provide a reasonable fit for each patient and also to allow for laundering and dry cleaning.

The provision of this clothing is essential. No man can be expected to roll around on a gymnasium floor or work in a workshop in the only respectable suit which he possesses. Even more important, a "uniform" does much to

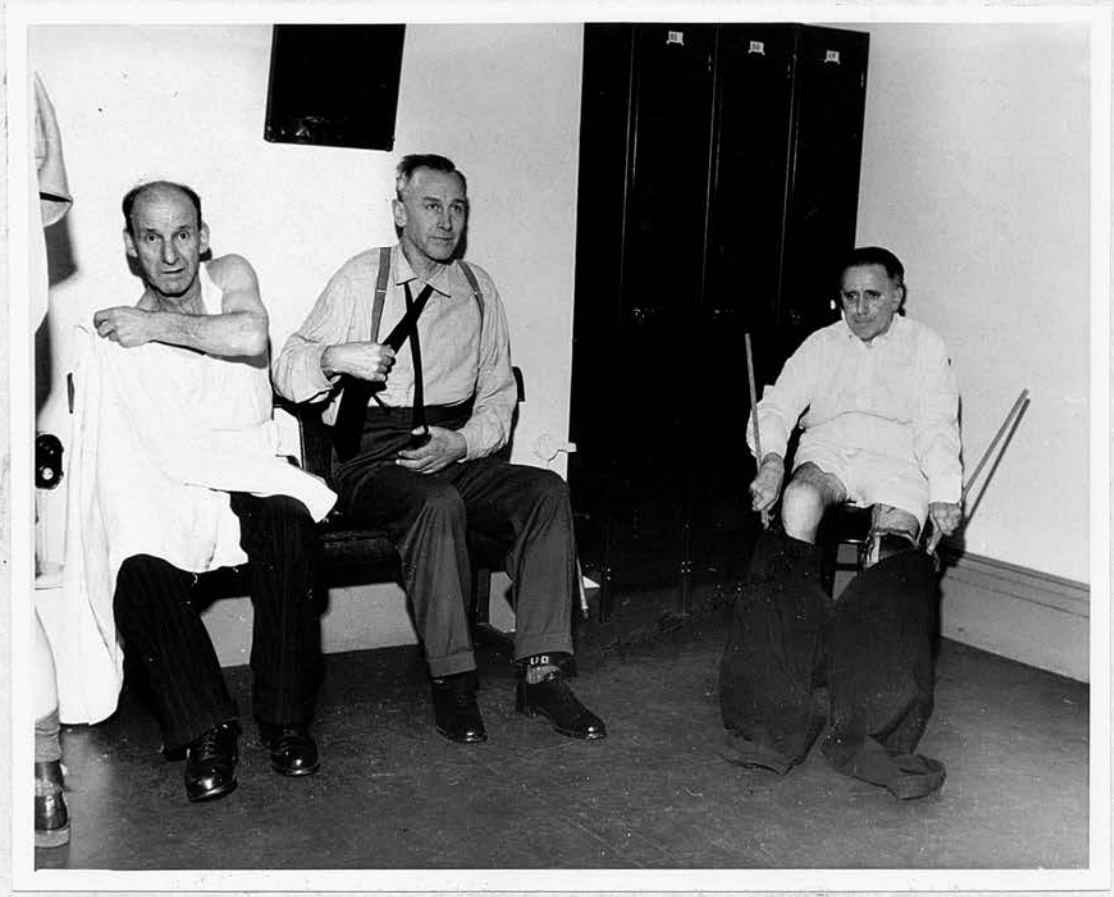


Figure 13

"A.D.L." Changing room

Hemiplegic patient on the left is practising putting on shirt with one hand.

Hemiplegic patient in the centre is being taught to tie his tie with one hand.

Patient on the right has two simple devices which allow him to put on his trousers, without help, despite marked bilateral limitation of knee flexion.

identify the patients as members of a therapeutic community. It helps to remove outward evidence of class and social distinction. At the time of writing the patients include a company director who is driven to the Centre by his chaffeur, a medical practitioner, the Director of Borstal After-Care, a senior B.B.C. executive, dockers, stevedores, casual labourers and elderly retired patients.

Changing Rooms:

When treatment begins, each patient is given a key to a steel locker in a changing room where his outdoor clothing and valuables are kept secure throughout the day. A key board is provided near the patients' entrance and keys must not be removed from the building. Washing facilities and showers are also available. One changing room is reserved for severely disabled patients who have difficulty in dressing and undressing. (Figure 13). A member of the staff is always present when such patients are using this room to give practical advice in the solution of the individual problem. It is made clear to the patients that this is the position and that the member of staff is not there merely to perpetuate dependancy. He works in close

collaboration with the Occupational Therapist.

Rest Rooms:

Two small rest rooms share a canteen. Morning and afternoon tea is served here to avoid the waste of time involved in the patients going to the main dining room in the basement. Patients awaiting transport also use these rooms which are brightly decorated and have padded chairs, magazines and daily newspapers.

Catering Arrangements:

Tea is served free of charge in the morning and afternoon. A free three-course lunch is also provided. The staff pay for their meals. There have been suggestions that a charge should be made for patients' meals but, in many cases, it is the only substantial meal that a patient has throughout the day, and without an adequate intake of food no patient can be expected to carry out his or her programme efficiently. A balanced diet is as important as a balanced programme. The total cost of provisions per patient per day does not exceed 2/3d.

The dining rooms and main kitchen are in the basement, and patients too disabled to negotiate the stairs are given their meals on

the ground floor.

Staircases:

There is no lift in the building and this lack has not proved an embarrassment. Stair climbing is a functional activity and patients are encouraged to pursue it as soon and as often as possible. Double hand rails are provided on all staircases and the treads are covered with non-slip rubber.

Patients fall into four main categories:-

(i) Those who have no locomotor disability.

(ii) Those who can negotiate any stair equipped with hand rails. Speed is immaterial. A target is set each day and the patient tries to better his performance.

(iii) Those who can negotiate any stair under supervision. Staff are detailed to provide this service.

(iv) Those who cannot negotiate a stair.

This last group of patients are taken up and down stairs in an electrically driven chair, a Swedish invention with small wheels placed at a tangent to the main drive and connected together by a rubber belt. As a result a patient can be taken upstairs by a member of staff who has only to balance the chair and work the controls. A long trailing cable

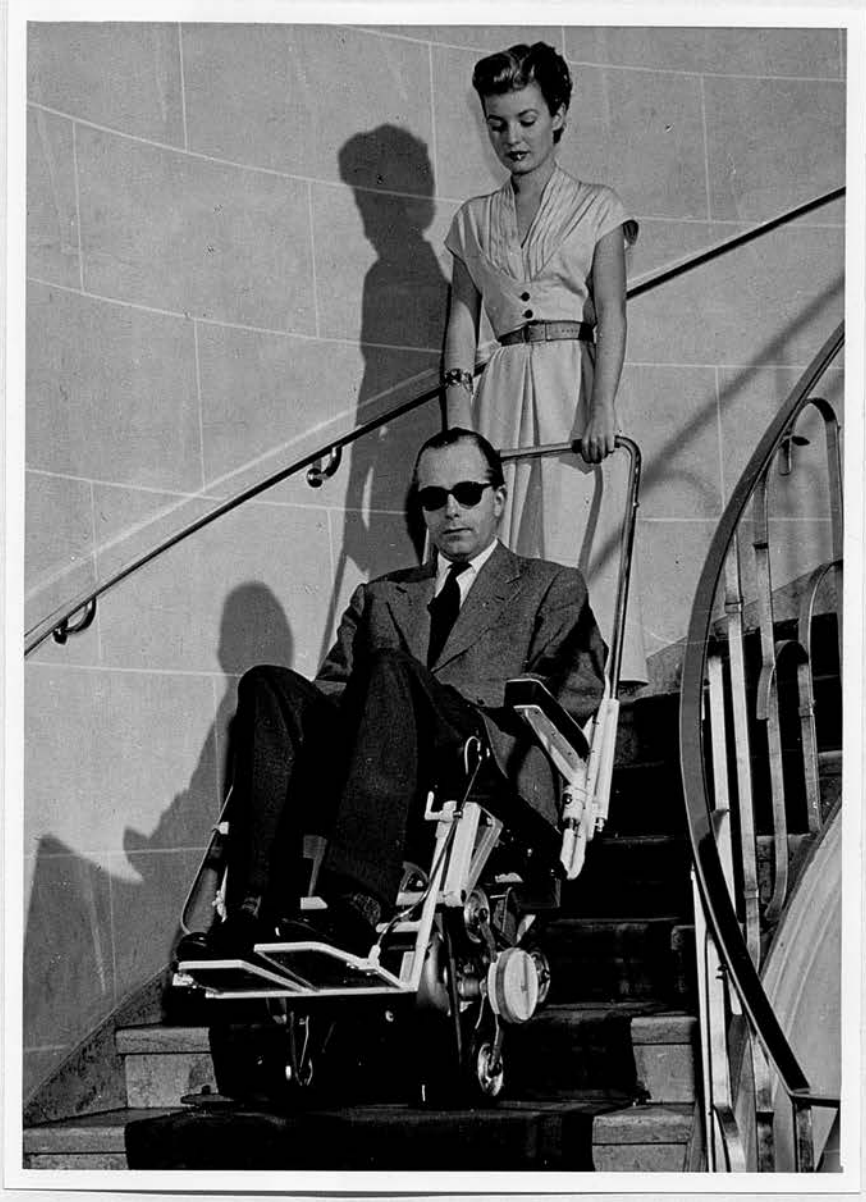


Figure 14

Motor propelled wheel chair
which can ascend and descend stairs

makes it possible to take a patient from either of the gymnasia on the ground floor, for example, to either the physiotherapy or occupational therapy departments. (Figure 14)

Such a device has the added advantage that it can only be used on "prescription". If a lift were available it would prove difficult to prevent patients with the slightest locomotor disorder from using it.

The number of patients under treatment at any one time who fall into this last category is controlled strictly. There are usually about eight such patients under treatment at one time. The observations in Section One, concerning the importance of a balance of long and short-term cases are thus implemented in practice.

Conference Room and Educational Centre:

This room is used for the twice weekly remedial meetings and for Staff meetings (see Section Two (p) and (q)). It is also used as a lecture room and as a suitable place to discuss matters with visitors. An average of approximately four hundred visitors, excluding students, from over 42 countries, have attended each year since the Centre opened, and it has proved difficult to strike a balance between the necessity of affording

facilities to such visitors and impeding the normal working of the Centre.

At the present time medical students, in their first clinical year, attend each year from five teaching hospitals. The London School of Occupational Therapy and the West London School of Physiotherapy send students regularly, and two Occupational Therapy students are under instruction at the Centre throughout the year. The London School of Speech Therapy sends two students in rotation throughout the year. The Ministry of Labour and National Service send prospective Disablement Resettlement Officers. The Royal College of Nursing send students attending the Course on Occupational Health, and Bedford College send students attending a course on Sociology. Hospitals send Student Nurses, Almoners and Physiotherapists.

(e) SOURCES AND SELECTION OF PATIENTS

General Considerations:

There can be no scarcity of suitable cases for rehabilitation and the difficulties in selection result from the tremendous mass of clinical material available. The popular press has built up a picture of rehabilitation which has done far more harm than good, since patients are led to believe that no disability, however long-standing, can fail to benefit

from such treatment. This is, of course, untrue and indiscriminate admission of patients would soon ruin the reputation of the Centre, quite apart from the harm to the individual patient.

The first necessity is accurate diagnosis. To commence treatment without a competent and painstaking physical examination is to incur disaster in a proportion of the patients. This remains true however comprehensive the notes accompanying the patient. It is the responsibility of the medical staff at the Centre to ensure that each patient is fit and suitable for a particular exercise programme. This can only be ascertained by clinical examination.

(i) Surgical and Orthopaedic Cases:

In this field rehabilitation produces the most spectacular results, and the vast majority of cases which are considered suitable for rehabilitation by the Surgeon can be accepted.

The timing of admission is often difficult, particularly where a compensation claim remains to be settled. At present, there is an apparent disincentive to recovery in such cases until litigation has been completed. At

Gleneagles Fitness Centre, the candidate saw many patients who made more progress in three weeks following settlement of their claim than in the preceding three months. This is referred to again in Section Three but is mentioned here as a factor in the selection of patients.

(ii) Medical Cases:

Far more patients are incapacitated as the result of medical conditions than surgical, and a great deal of work remains to be done in discovering how best to restore such patients to full health. Many medical conditions necessitate the patient remaining in bed for long periods of time and the changes due to disuse must be counter-acted or treated. Patients suffering from such diseases as rheumatoid arthritis, bronchitis and emphysema, multiple sclerosis, Parkinson's disease, peptic ulceration and asthma can all benefit from rehabilitation procedures. They gain the maximum benefit when transferred to a rehabilitation centre, either as an in-patient or an out-patient at the proper time, i.e. as soon as they enter the remission phase of their illness.

The group of patients labelled as suffering from long-standing "muscular rheumatism", "Fibrositis" and other such vague clinical entities require particularly careful selection. No harm is done by treating them for a short period, but many of the symptoms are found to be due, on investigation, more to adverse social circumstances and minor personality defects than to organic disease. On the other hand investigation sometimes establishes an organic cause and definitive treatment can be instituted.

Open cases of tuberculosis are obviously unsuitable for admission to a rehabilitation centre.

(iii) Psychoneurotic Cases:

There is only a small place in a general rehabilitation centre for psychoneurotic patients. Such patients require special treatment, guidance and supervision more easily provided at some special centre like Roffey Park, Horsham, Sussex. Minor personality changes which are the direct result of the injury or illness should not, however, constitute a bar to admission. The atmosphere of the Centre, the helpful approach to the problems of everyday

living, the example of the other patients and of the staff, all help to resolve such a condition. This group comprises patients with normal personalities subjected to abnormal strain. Such patients should not be allowed to exceed about 15% of all cases under treatment at one time.

In the opinion of the candidate there is no place for a psychiatrist on the staff of a rehabilitation Centre. While it may be valuable to refer a patient to a psychiatrist, his presence at the Centre would certainly do more harm than good. The average patient fights shy of any patient known to be suffering from "nerves" and a psychiatric appointment for a patient, within the Centre, could not be kept secret. Many patients at the Centre have consultations with their specialist at their parent hospital and their absence, on this account, produces no comment from their fellow patients. It has been found to be best to deal with psychiatric consultations on the same basis. In any case, a man's emotional life is very

precious to him and the Centre has a duty to protect him in this respect.

(iv) Age:

Many people believed that the principles of rehabilitation worked out in the Services would not be applicable to civilian life. The fact that the Services dealt with a selected age group of patients was one of the strongest arguments, but it has been proved to be false. The oldest patient whose rehabilitation the candidate has organised was 92 years old. He had sustained a fracture of the neck of the femur which had been treated by means of a Smith-Peterson nail. He was exceedingly apprehensive on admission but left walking with the aid of a stick and was perfectly able to look after himself.

Numerical age is of little value in assessing the suitability of a patient for treatment. A man is as "young as he feels" and many patients of sixty to seventy years approach the elimination of their disability with more enthusiasm than men of forty to fifty.

The resettlement of the older age

groups is a more complex problem but most of the older patients can return to their former work or lighter activity in the same trade. They have probably been with their employers for many years and are therefore considered sympathetically. Few people realise that if a patient's final condition requires a change of occupation then the difficulties of resettlement are equally difficult in the younger age groups. Age limits concerning apprenticeship, trade union restrictions, educational standards and work availability in the area are all factors complicating resettlement, whatever the age of the patient.

A diagram showing the age distribution of the 1,325 patients is presented in Section Four. The youngest patient was 15 years of age; the oldest 84. Younger patients are not accepted for treatment because of the administrative difficulties involved.

Patients are accepted from any hospital or general practitioner and the facilities are not reserved for the local area. An analysis of the referring

authorities shows that, in the past three years, approximately 75% of patients were referred by teaching and non-teaching hospitals, 20% were referred by general practitioners, and 5% by the Medical Officers of such large organisations as the National Dock Labour Board, Central Electricity Authority, North Thames Gas Board, British Railways and the London Passenger Transport Board.

An application form must be completed for each patient and a decision concerning suitability can be reached, on the information supplied, in most of the traumatic cases. In the patients with unstable disabilities it is usual to arrange to see the patient either at the hospital or at the Centre, before a decision is reached. Very few patients are rejected because the Centre is often the "last resort", and an adverse decision cannot therefore be taken lightly. The number of patients considered unsuitable over the three year period was approximately 60. A number of these patients were, in fact, reconsidered at a later date and then accepted. Unfortunately no record of this has been kept but the impression

is that about 20% of the initial rejections fall into this category. About twelve appointments are arranged each week to decide suitability and the correct timing of commencement of treatment.

(f) RECEPTION AND ADMISSION OF PATIENTS

When a patient is considered suitable for treatment his name is placed on the Waiting List and the referring doctor notified accordingly. Patients are normally discharged on Fridays and new patients commence treatment on Mondays. The waiting list is dealt with selectively and not on a rotation basis.

Patients fall into three general categories:-

1. Short-term cases. These always commence treatment within seven days of being accepted, the majority within four days.
2. Long-term cases who can negotiate stairs but require supervision.
   The average delay between being accepted and commencing treatment is 2-3 weeks.
3. Patients who require to be taken up and down stairs and are severely disabled.
   The average delay between being accepted and commencing treatment is 4-8 weeks.

The actual time is governed by the patients' rate of progress from this group as a result of treatment.

Each patient is notified individually that there is a vacancy for him and a copy of this letter is sent to the referring authority.

The new patient comes in a special entrance, as has been shown already in this section under (b). He is welcomed by the Social Service Officer, who deals with admissions, and the relevant information is obtained to commence his case record. Many patients arrive antagonistic and suspicious. Smooth reception and an understanding attitude on the part of the staff can help to break down such prejudices rapidly.

The Rehabilitation Officer must ensure that a new patient is not allowed to feel "lost". He obtains considerable aid from the Patients' Committee who voluntarily undertake to help new patients feel at ease.

(g) TRANSPORT ARRANGEMENTS.

The number of patients who require ambulance transport to and from the Centre must obviously vary, but usually averages about 45% of those patients under treatment. Such transport is provided free by the appropriate Local Authority. The question

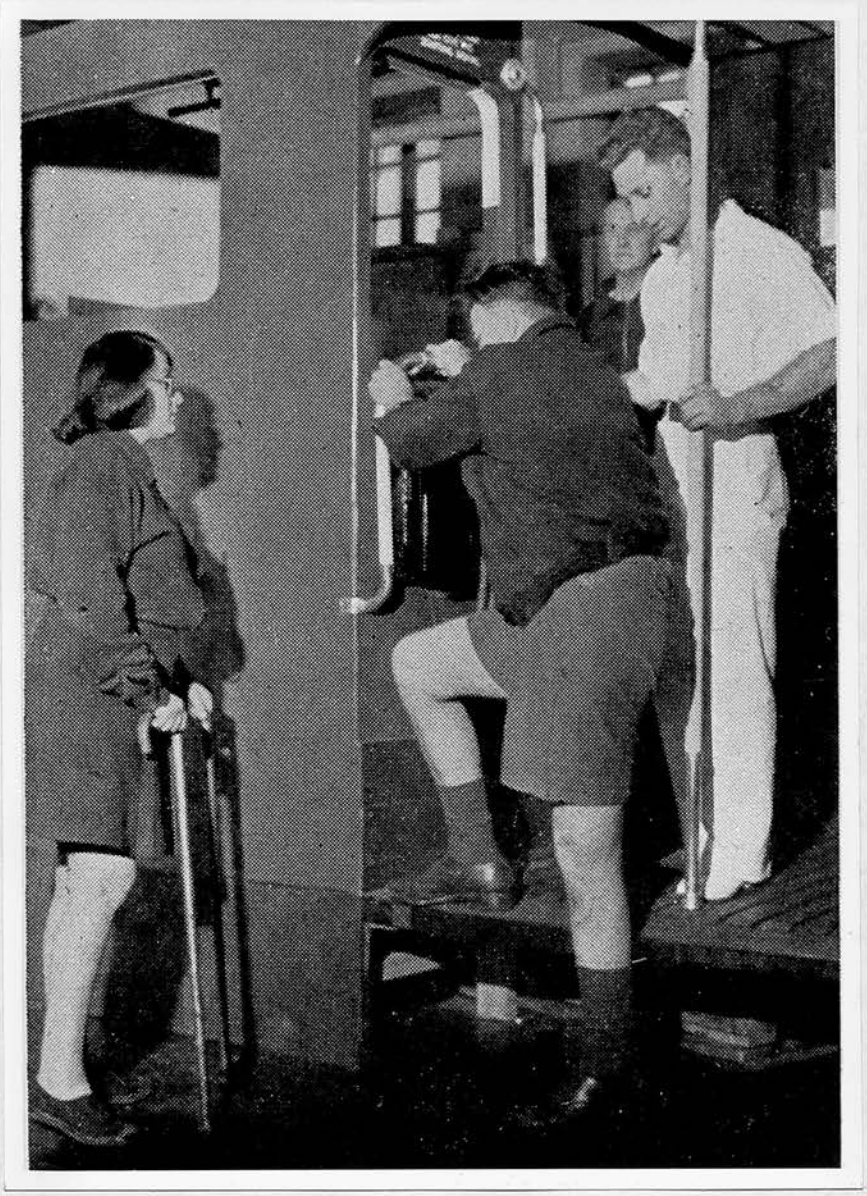


Figure 15

of whether such transport is necessary is reviewed every week and patients are "promoted" to normal transport as part of their programme. At least once a week patients are taken out on public transport by a member of staff, once they have shown the necessary skill to board and alight from the full-scale rear end of a bus which is sited in one of the Gymnasia. (Figure 15.) This was built by patients in the Centre workshops from plans supplied by the London Passenger Transport Board.

Many patients have ambulance transport for apparently "medical" reasons but the real reason is social or economic. It is useless to attempt to wean a patient from an ambulance unless arrangements to provide help with his fares are made at once.

The candidate interviewed the Chief Ambulance Officers in the early days of the Centre's existence to explain the nature of the work that it was hoped to achieve. Excellent team work now exists and patients arrive promptly and are taken home in reasonable time at night. The individual ambulance drivers can see the logic of bringing a patient for a whole day treatment five days a week but have certain personal reservations concerning the value of treatment

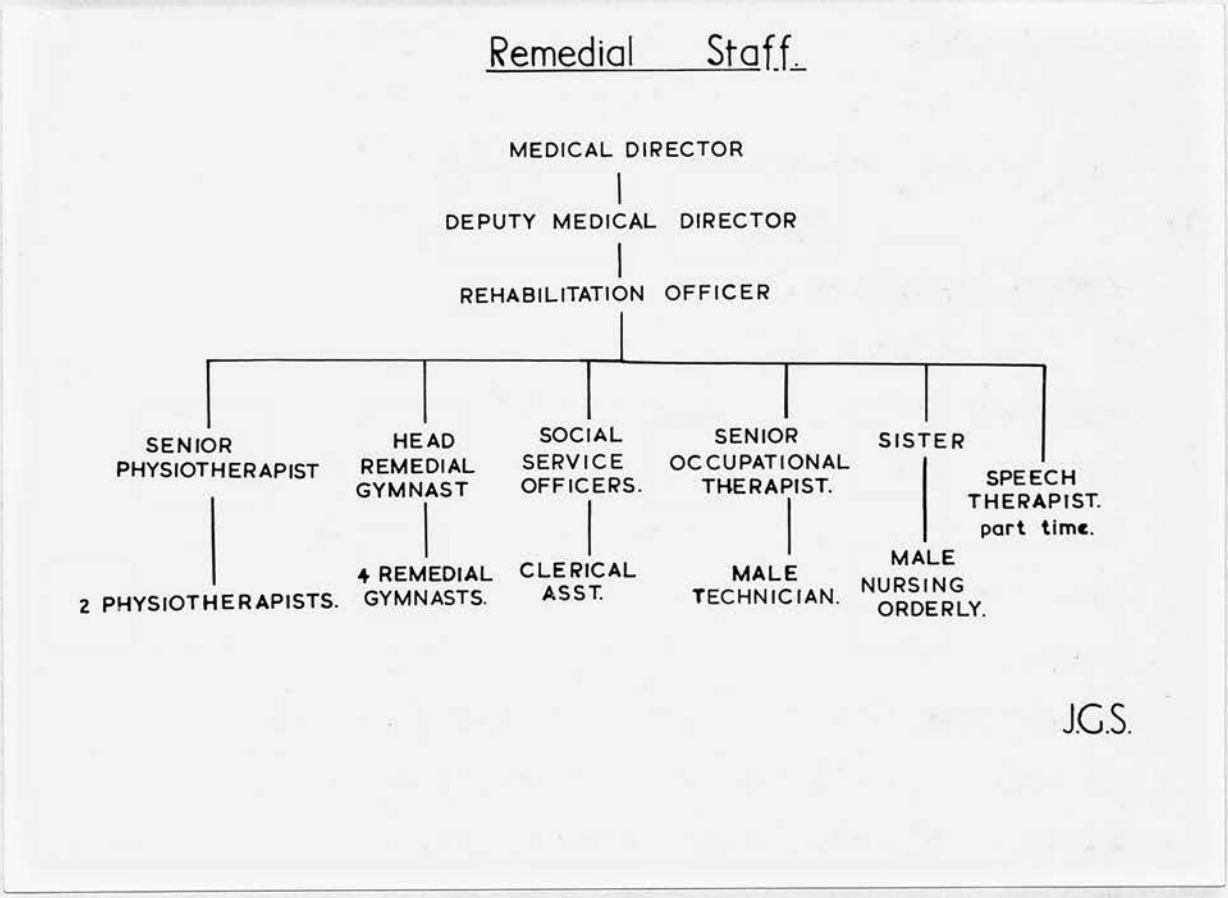

Remedial Staff.
MEDICAL DIRECTOR
DEPUTY MEDICAL DIRECTOR
REHABILITATION OFFICER
SENIOR PHYSIOTHERAPIST
2 PHYSIOTHERAPISTS.
HEAD REMEDIAL GYMNAST
4 REMEDIAL GYMNASTS.
SOCIAL SERVICE OFFICERS.
CLERICAL ASST.
SENIOR OCCUPATIONAL THERAPIST.
MALE TECHNICIAN.
SISTER
MALE NURSING ORDERLY.
SPEECH THERAPIST. part time.
J.G.S.

Figure 16

for half-an-hour two or three times per week. They are also aware that all patients who are provided with transport require it and that the arrangements are reviewed weekly.

(h) REMEDIAL STAFF. (Figure 16)

General Considerations:

The provision of the facilities and equipment detailed in this Section will be of no value without suitable staff. Each member, from the director downwards, must understand that his or her job is to help relieve the symptoms and anxieties; to overcome the apathy, inertia and boredom of the sick or injured man as soon as possible upon his transfer to the Centre. The staff must be industrious, cheerful and sympathetic and should be welded together as a team. High morale among the staff leads to high morale among the patients and to good results.

The importance of having the right type of personality and leadership in the staff is emphasised as it is the result of the Candidate's own experience. One inappropriate member on the staff can jeopardise the whole organisation and it is the duty of the Medical Director to deal at once with such a situation. There is a great deal to be said in favour of

appointing staff on a probationary basis, as it is only under working conditions that a true assessment of their personalities can be made.

(i) Medical Director.

(ii) Deputy Medical Director.

It is no platitude to state that the Medical Director has the power to create or destroy the spirit which brings success to a rehabilitation centre. He must have a wide experience of the whole field of rehabilitation and resettlement, and also possess a good understanding of human beings. He should be tolerant of suggestions and not resentful of criticism. He should make it clear to the entire staff that any suggestion will be considered and implemented if suitable.

Medical qualifications are not as important as experience. Many specialists in Physical Medicine have gained their experience in the atmosphere of hospital physiotherapy departments. Such a training does not, of itself, qualify such a specialist to direct a rehabilitation centre. The tendency in the hospital is to emphasise the passive role of the patient and this should emphatically never

be the case at a rehabilitation centre.

A certain amount of administrative experience is essential. Such Centres do not fit easily into the "pigeon-holes" of the Regional Hospital Boards, and the Director and his Deputy must be able to produce a good case for any alterations in equipment or establishment. Many precedents have to be established and lay administrators conditioned to accept them.

The candidate has had to deal with such matters as part of his daily routine since the inception of the Centre, and it may be noteworthy that only matters of major policy were referred to the Medical Director.

(iii) Rehabilitation Officer.

This member of the staff is the intermediary between the medical and the remedial staff. He is a qualified physiotherapist and remedial gymnast with a wide experience in the field of medical rehabilitation.

The "prescription" of each programme is the doctors' responsibility, and that of the rehabilitation officer is to ensure that each programme is implemented.

He assists in the planning of each programme and his advice ensures that the work is spread as evenly as possible between the departments and the staff throughout each day.

A basic programme must exist but should retain a degree of flexibility to allow for differing types of disabilities under treatment at a particular time. He should make such adjustments and take precautions that sickness or holidays do not disrupt the programme.

The work of the staff is demanding and their morale and enthusiasm must be kept high. The rehabilitation officer has a large part to play here, both by precept and by example. He is also responsible for the maintenance of equipment and clothing.

Nothing can be more dangerous than uncontrolled activity within a remedial group. This is most likely to occur with newly qualified staff. The rehabilitation officer must ensure that such staff serve an adequate apprenticeship and have his constant advice and support. On a group basis among the staff, he

arranges discussions which help to maintain interest, stimulate thought and keep up the technical standards of the work. He also attends all policy meetings concerning future development, visits hospitals and attends meetings to keep abreast with the latest techniques.

Such a post is not "established" within the National Health Service. The candidate would find it impossible to run a medical rehabilitation centre without the help of such a member of staff.

It is firmly submitted that strong grounds exist for training such personnel if rehabilitation facilities are to expand.

(iv) Physiotherapists.

There is one senior and two basic physiotherapists on the staff of the Centre. Such staff must hold the recognised qualifications but it is equally important that they have appropriate personalities. There is a long tradition amongst physiotherapists of "doing things" to people to get them better - a tradition of passivity on the part of the patient which it is difficult to eradicate. They must be prepared to work happily as a part of the team if they are to make the optimum

contribution to the efficiency of the Centre. This contribution will be discussed more fully in Section Two (m).

(v) Remedial Gymnasts.

There is one Head Remedial Gymnast, one senior and three basic Remedial Gymnasts on the staff. They require skilled knowledge to judge which activity a patient requires and how much he or she can do. At present, the only training school for remedial gymnasts in the United Kingdom is the School of Remedial Gymnastics and Recreational Therapy at Wakefield.

The overwhelming need is for a gymnast, male or female, who possesses knowledge, leadership and humanity. The spirit of comradeship in the group can be encouraged, competition fostered and every advantage taken of the fact that, at the correct time, group work produces better results than individual treatment.

The gymnast must work under the close supervision of the Rehabilitation Officer and the Doctor. The patient must realise that he can have every confidence that he will not be required to carry out any exercise which would be

detrimental to his progress or beyond his capabilities. The patient must be convinced that benefit can only result from carrying out such exercises regularly, efficiently and willingly.

(vi) Occupational Therapist.

The observations concerning the appropriate type of personality in relation to physiotherapists are equally relevant in this sphere. Modern training of Occupational Therapists has shifted the emphasis from "craft work". In the last analysis there is no better method of assessing a patient's willingness and ability to do a job than making him do that job, or its equivalent, under supervision. The Occupational Therapist must produce a realistic organisation equated to the problems which have to be resolved. There is little logic in teaching crafts for crafts' sake, and no point in bending a patient willy-nilly to a 'mystique' of nursery crafts or a ritual of occupation unrelated to the future.

The correct assessment of work capacity is an important aspect of preventive and social medicine. This

involves assessment of the physical problems - standing, sitting, walking, lifting, limitation of joint movement, manual dexterity and endurance for example. Assessment of the patient's personality, inclinations, ambitions and desires must take place at the same time.

This is exacting work, and there are relatively few Occupational Therapists in the United Kingdom who possess the necessary personality, training and experience. Further details concerning the type of work carried out in the Occupational Therapy Department are given in Section Two (n).

(vii) Nursing Sister.

A qualified nurse is an essential member of the staff. She is responsible for the issue of medicaments, as prescribed, for carrying out dressings, removing sutures, assisting at injections and manipulations and dealing with emergencies. Equipment for minor "sick-room" work is under her supervision; i.e. urinalysis, estimation of erythrocyte sedimentation rate and haemoglobin levels. She is also responsible for making arrangements for a patient to be seen by the doctor and

ensuring that decisions are actioned without delay.

The Sister should be efficient and dependable. She must be observant, sympathetic yet firm, and alert to the constant danger of perpetuating disability by an over-solicitous manner.

(viii) Male Nursing Orderly.

This member works under the supervision of the Nursing Sister and assists male patients as required. He also helps in the handling of severely disabled patients and operates the electric chair which negotiates the stair described in this Section.

(ix) Social Service Officers

Their duties consist of dealing with the social problems of patients. These may involve financial assistance, help with clothing, enquiries concerning rehousing and resettlement. They also deal with the administrative arrangements for providing motor-propelled invalid carriages and wheelchairs where required. They are not qualified Almoners but maintain a close liaison with the Almoners of parent hospitals who are dealing with the patients.

The Social Service Officer must be

sympathetic, never too busy to listen, and with a wide experience of dealing with human beings. She must also have a sound experience of medical records and documentation. Without knowledge of this aspect of the work no reliable figures can be produced and no special investigations undertaken of the value of a particular form of treatment. The work involved is discussed in greater detail in Section Two (o).

(x) Speech Therapist.

A part-time Speech Therapist is employed, together with two students on a rota basis. Speech Therapy can be invaluable for patients with receptive and expressive aphasia. Such treatment must be intensive and should be co-ordinated with the work in the Occupational Therapy and Physiotherapy departments and in the Gymnasia.

The value of the "Group approach" in speech therapy is accepted and confirmed by experience at the Centre. An experiment is proceeding concerning the value of "aphasic games" i.e. simple games played by a small group of aphasic patients which encourage articulation.

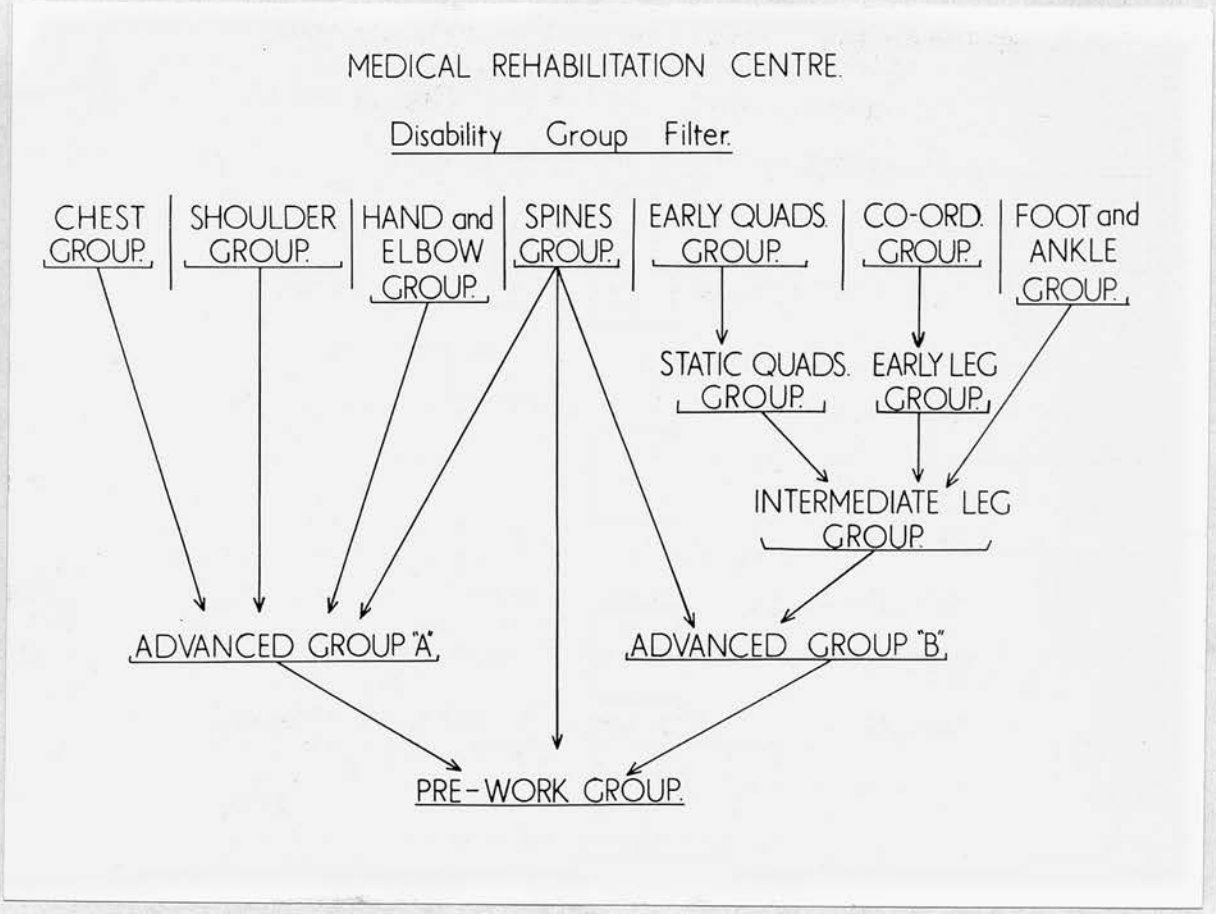

MEDICAL REHABILITATION CENTRE.
Disability Group Filter.
CHEST GROUP.
SHOULDER GROUP.
HAND and ELBOW GROUP.
SPINES GROUP.
EARLY QUADS. GROUP.
CO-ORD. GROUP.
FOOT and ANKLE GROUP.
STATIC QUADS. GROUP.
EARLY LEG GROUP.
INTERMEDIATE LEG GROUP.
ADVANCED GROUP "A".
ADVANCED GROUP "B".
PRE-WORK GROUP.

Figure 17

The results so far appear to suggest that this is a fruitful line of approach if the patients are selected with the help of the speech therapist.

(xi) Other Staff not attached to the Centre.

Arrangements exist for the provision of chiropody and dental treatment as indicated. A neighbouring hospital X-rays patients and the films and reports are sent to the Centre. An orthopaedic technician attends, on request, and all fittings of appliances are carried out under medical supervision within the Centre. The Disablement Resettlement Officer of the Ministry of Labour sees patients at the Centre by appointment. Arrangements are also available for obtaining the advice of an ophthalmologist and for the provision of spectacles. Similarly, audiometry tests and the provision of hearing aids can be dealt with without undue delay.

(i) The "Group Approach":

The work of the Centre is based on the "disability group". Figure (17) shows the main groups available and how there is a progression, on the part of the patient, which is in line with his or her progress. Grouping of the patients in terms of the

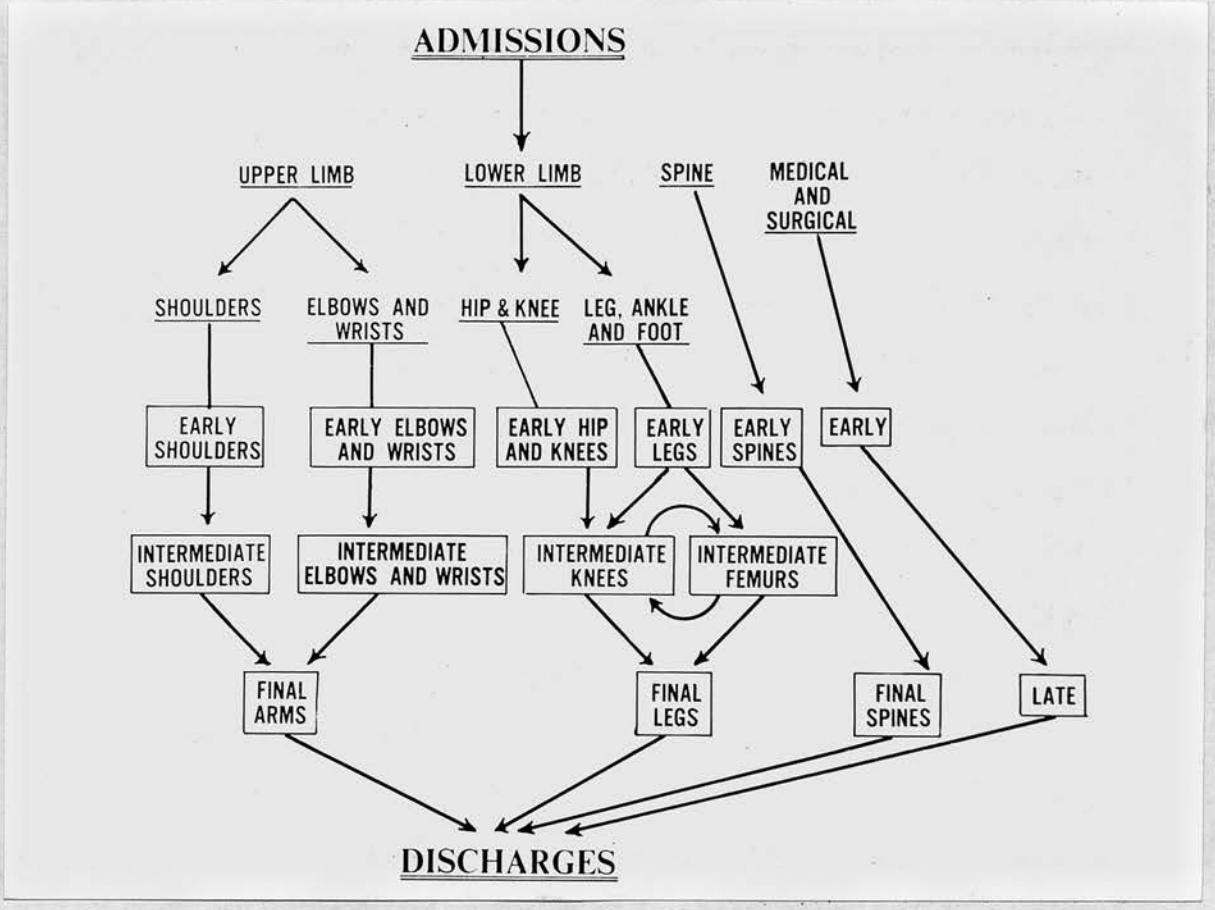


Figure 18

More complex disability group filter

anatomical location of their disabilities, with grading of such groups, has proved to be a satisfactory method of organization.

It is important not to insist upon too rigid a structure as special groups or sub-groups may be necessary, from time to time, to deal with particular groups of patients. Figure (18) shows a more complex disability group filter devised by the Candidate when he was Senior Medical Officer at No.2 Medical Rehabilitation Unit, Royal Air Force, Collaton Cross, Devon. Such a filter requires a large staff and would not be practical in civilian life.

The actual naming of the groups is a matter of individual preference and is considered relatively unimportant. The grading of patients by the medical officer is not an easy task. The problem is to place each patient in the correct group at the right time. If the patient is moved too early to a more advanced group the adverse effect is seen both in physical and in mental deterioration. Conversely, retaining a patient too long in a particular group is equally detrimental to his morale and may unnecessarily prolong his disability.

EVOLUTION FROM INDIVIDUAL TO GROUP THERAPY

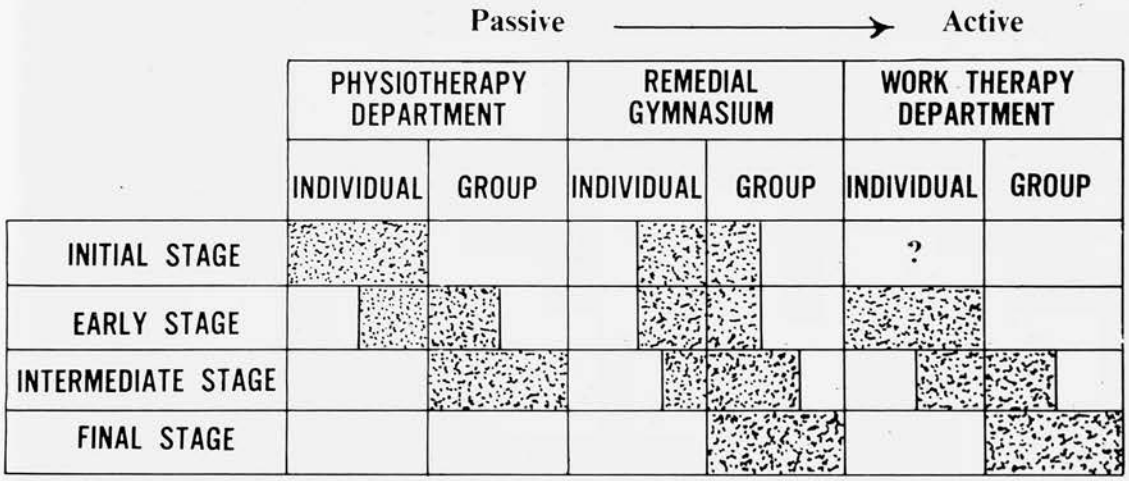


Figure 19

The planning of each patient's programme remains an individual problem. There is no question of "automatic promotion" on the basis of seniority within a particular group. Nor is it essential for each patient to proceed through the whole range of injury groups which might be potentially useful to him.

As the patient proceeds to the more advanced groups, the emphasis shifts from the strictly anatomical approach in the individual stage to a functional one. In this manner there is an evolution from individual to group therapy, a shift of emphasis from the passive to the active approach to the problem. Figure (19) attempts to illustrate this. The shaded areas represent the emphasis in each department related to the stage of recovery. A study of the disability group filter shows the same change in emphasis.(Figure 17).

The group approach is of undoubted value to the patient if it is part of a balanced individual programme. The patient still has the individual attention which his disability demands but he gains by working in a group of patients suffering from similar conditions. His morale improves, introspection decreases, the disability falls into perspective and the desocialised person can be resocialised with

comparative ease. Patients learn to take the rough with the smooth and the element of competition which exists within the group is worthy of encouragement, although it should not be over-emphasised.

The candidate recalls one dramatic case in which the value of the group approach was made apparent within a matter of hours. A nineteen year old male was examined on the morning that he commenced treatment. He was assisted into the consulting room by two members of staff and could neither sit nor stand without assistance. An encapsulated tumour had been removed from the spinal cord two months previously and there was a partial paraplegia with loss of joint position sense in both knees ankles and feet. There was also marked muscle wasting worse in the left lower limb. Proprioceptive sensation was also impaired, with areas of hypoaesthesia in both lower limbs. The clinical findings were compatible with his degree of locomotor disability. In the course of his <u>first</u> day of treatment he was participating in an Early Legs Group. About eight patients were carrying out an activity, sitting on stools in a circle, with this patient. The remedial gymnast then asked the group to stand up and,

to his surprise, the patient also stood without help.

There is no doubt that, had the gymnast asked the patient to stand up, he would have been told that it could not be done without assistance. This sudden improvement in functional activity cannot be attributed to treatment - it was the patient's first attendance. It was undoubtedly due to the group approach.

It should now be apparent that a therapeutic community cannot be developed without employing such a technique. Text-books and doctors frequently ignore the help that patients, brought together in a group under adequate control, can give to each other.

An analysis of the work of the main disability groups is given in Section Two (1). It should be noted that either remedial gymnasts or physiotherapists can control a group, and groups can carry out their activities either in the gymnasia or in the physiotherapy department.

(j) <u>The Basic Programme</u>:

The daily programme must cover the period from 9.15 a.m. to 4.45 p.m. and should make it possible for the diverse disabilities treated to have a proper balance of rest and activity

throughout each day. The following typical list of patients under treatment at any one time shows the necessity for a programme which is sufficiently elaborate to deal with them effectively:-

MEDICAL REHABILITATION CENTRE,
152, Camden Road, London,N.W.1.

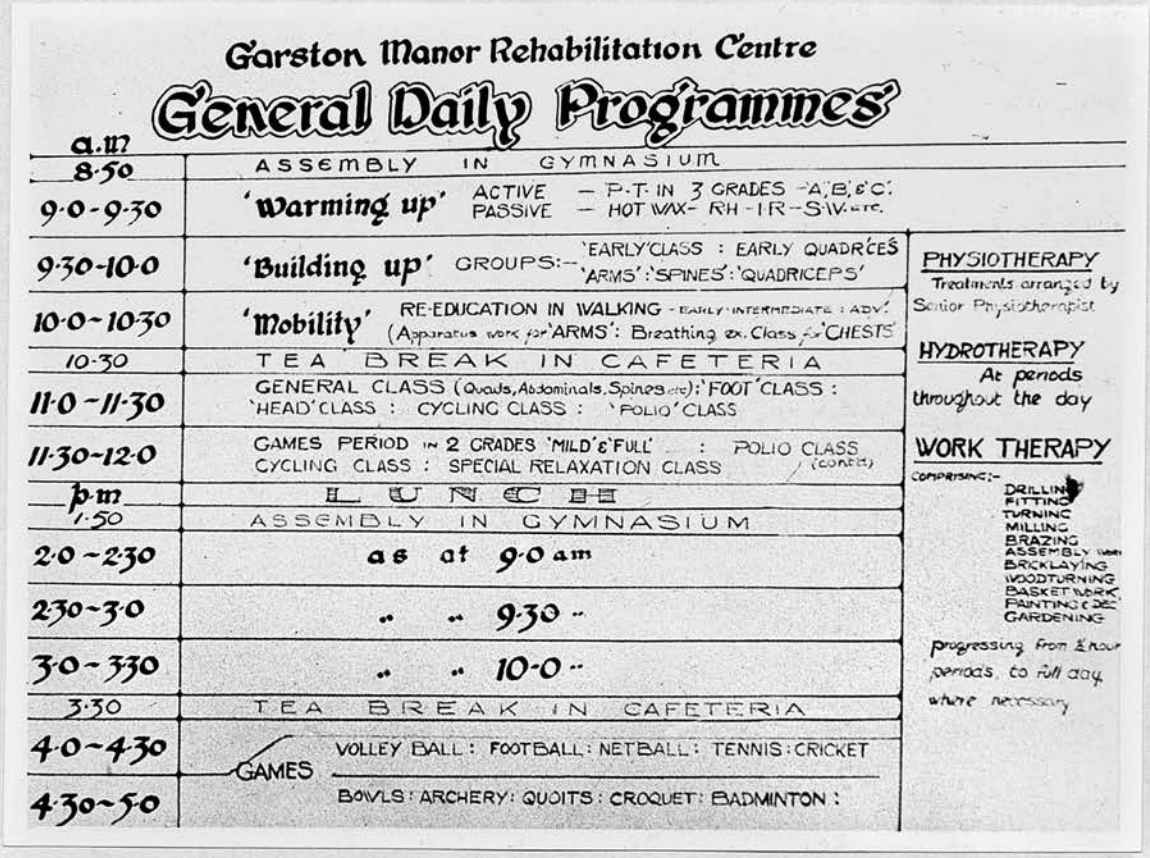
Typical list of 78 patients under treatment at one time.

NAME	AGE	DIAGNOSIS	REFERRED BY	TRANS-PORT
Mr.C.A.	23	Meniscectomy	Hospital	Amb.
Mr.E.A.	27	Cerebellar degeneration	"	"
Mr.G.A.	51	Torn medial ligament left knee	"	
Mr.L.B.	24	Right hemiplegia-old head injury	"	"
Mr.R.B.	41	Fracture right tibia & fibula	"	"
Mr.G.B.	33	Anterior Poliomyelitis	"	"
Mr.C.B.	61	Myocardial Infarction-Cervical Spondylosis	"	"
Mr.A.B.	38	Hand injury-gunshot wound	"	
Mrs.R.B.	43	Left hemiplegia	"	"
Mr.H.B.	58	Spastic paraplegia	General Practi-tioner.	"
Mr.P.C.	40	Ankylosing Spondylosis	Hospital	"
Mrs.M.C.	26	Anterior Poliomyelitis	"	"
Mrs.A.C.	24	Anterior Poliomyelitis	"	"

NAME	AGE	DIAGNOSIS	REFERRED BY	TRANS-PORT
Mr.S.C.	41	Post Encephalitic Parkinsonism	Hospital	Amb.
Mr.R.C.	41	Duodenal Ulcer	"	
Miss S.C.	56	Rheumatoid Arthritis	"	
Mr.D.C.	65	Osteo-arthritis/hip	"	"
Mr.F.C.	54	Disseminated Sclerosis	"	"
Mr.L.C.	25	Below-knee amputation	"	"
Mr.B.C.	26	Anterior Poliomyelitis	"	"
Mr.S.C.	50	Bilateral compound fracture of tibia	"	
Mr.K.C.	60	Injury to back	"	"
Mr.E.D.	63	Fracture of left femur	"	"
Mrs.H.F.	52	Left hemiplegia	"	"
Mr.T.F.	48	Fracture of left patella	"	
Mr.L.F.	57	Right upper thigh amputee/right hemiplegia	"	"
Miss E.F.	30	Disseminated sclerosis	"	"
Mr.T.G.	57	Left inguinal hernia- Hemiplegia	General Practi-tioner.	
Mr.R.G.	48	Fracture right tibia	Hospital	
Mr.F.H.	62	Left hemiplegia	"	"
Mr.E.H.	55	Bilateral mid-thigh amputation	"	"
Mrs.T.H.	60	Fracture of right tibia and fibula	"	
Mrs.A.H.	40	Right above-knee amputation	"	"

NAME	AGE	DIAGNOSIS	REFERRED BY	TRANS-PORT
Mr.L.H.	68	P.I.D.	Hospital	
Mrs.I.H.	36	Left hemiplegia	"	Amb.
Mr.C.J.	42	Fractured pelvis	"	
Mr.L.J.	46	Multiple injuries	"	
Mr.C.K.	54	Total Gastrectomy-oesophago-jejunostomy	"	
Mr.W.K.	23	Fractured right femur Fractured right patella	"	
Mr.K.L.	45	Amputation of right arm	"	
Mrs.J.L.	61	Spastic paraplegia - Arachnoiditis	"	"
Miss D.L.	55	Disseminated Sclerosis	"	"
Mr.R.L.	58	Right hemiplegia	"	"
Mr.McD.	44	P.I.D.	"	
Mrs.McK.	36	Depressive state - hysteria	General Practi-tioner	
Miss U.M.	46	Traumatic lesion cervical cord	Hospital	"
Mr.T.M.	26	Compound fracture dislocation right ankle	"	
Mrs.J.M.	39	Anterior Poliomyelitis	"	"
Mr.H.M.	42	Fracture of left femur	"	"
Mr.T.M.	56	Amputation above knee-left- Scleroderma	"	"
Mr.L.M.	67	Cerebral vascular arteriosclerosis-senile Parkinsonism	"	"
Mr.T.N.	43	Bilateral fracture-os calcis	"	
Miss P.N.	32	Old T.B.hip - unstable right knee	"	"

NAME	AGE	DIAGNOSIS	REFERRED BY	TRANS-PORT
Mr.F.N.	39	Meniscectomy	Hospital	Amb
Mr.L.P.	14	Anterior Poliomye-litis	"	
Mr.A.P.	53	Partial Gastrectomy-Right lower lobectomy Laminectomy-paraplegia	"	"
Mr.L.P.	56	Tarsal fractures	"	
Mr.A.P.	16	Still's disease	"	
Miss L.R.	43	Chronic Schizophrenia	"	
Mrs.P.S.	30	Multiple fractures	"	"
Miss E.S.	30	Epileptic Psychosis-Schizophrenic reaction	"	"
Mrs.N.S.	69	Right hemiplegia	General Practi-tioner	"
Mr.H.S.	49	Fractured metatarsals Hallux rigidus	Hospital	
Mrs.C.S.	27	Left below-knee amputation	"	
Mr.W.S.	45	Compound fracture right femur	"	"
Mr.H.T.	30	Bilateral fracture of patella	"	"
Mrs.F.T.	36	Cervical Spondylosis	General Practi-tioner	"
Mr.R.T.	39	Anterior Poliomyelitis	Hospital	"
Mr.F.V.	64	Fracture of base - 5th metatarsal	"	
Mr.G.V.	61	Old cerebro-vascular accident-moderate hypertension-functional overlay	"	"
Mr.F.W.	53	Rheumatoid Arthritis of hips, knees and hands	"	"



Garston Manor Rehabilitation Centre

General Daily Programmes

a.m	
8.50	ASSEMBLY IN GYMNASIUM
9.0-9.30	**'Warming up'** ACTIVE — P.T. IN 3 GRADES 'A','B','C'. PASSIVE — HOT WAX - RH - IR - S.W. etc.
9.30-10.0	**'Building up'** GROUPS:— 'EARLY' CLASS : EARLY QUADRICES 'ARMS' : 'SPINES' : 'QUADRICEPS'
10.0-10.30	**'Mobility'** RE-EDUCATION IN WALKING - EARLY : INTERMEDIATE : ADV. (Apparatus work for 'ARMS' : Breathing ex. Class for 'CHESTS'
10.30	TEA BREAK IN CAFETERIA
11.0-11.30	GENERAL CLASS (Quads, Abdominals, Spines etc) : 'FOOT' CLASS : 'HEAD' CLASS : CYCLING CLASS : 'POLIO' CLASS
11.30-12.0	GAMES PERIOD IN 2 GRADES 'MILD' & 'FULL' : POLIO CLASS CYCLING CLASS : SPECIAL RELAXATION CLASS (cont'd)
p.m	LUNCH
1.50	ASSEMBLY IN GYMNASIUM
2.0-2.30	as at 9.0 am
2.30-3.0	" " 9.30 "
3.0-3.30	" " 10.0 "
3.30	TEA BREAK IN CAFETERIA
4.0-4.30	GAMES — VOLLEY BALL : FOOTBALL : NETBALL : TENNIS : CRICKET
4.30-5.0	BOWLS : ARCHERY : QUOITS : CROQUET : BADMINTON :

PHYSIOTHERAPY
Treatments arranged by Senior Physiotherapist

HYDROTHERAPY
At periods throughout the day

WORK THERAPY
COMPRISING:-
DRILLING
FITTING
TURNING
MILLING
BRAZING
ASSEMBLY (Metal)
BRICKLAYING
WOODTURNING
BASKET WORK
PAINTING & DEC.
GARDENING

Progressing from ½ hour periods to full day where necessary

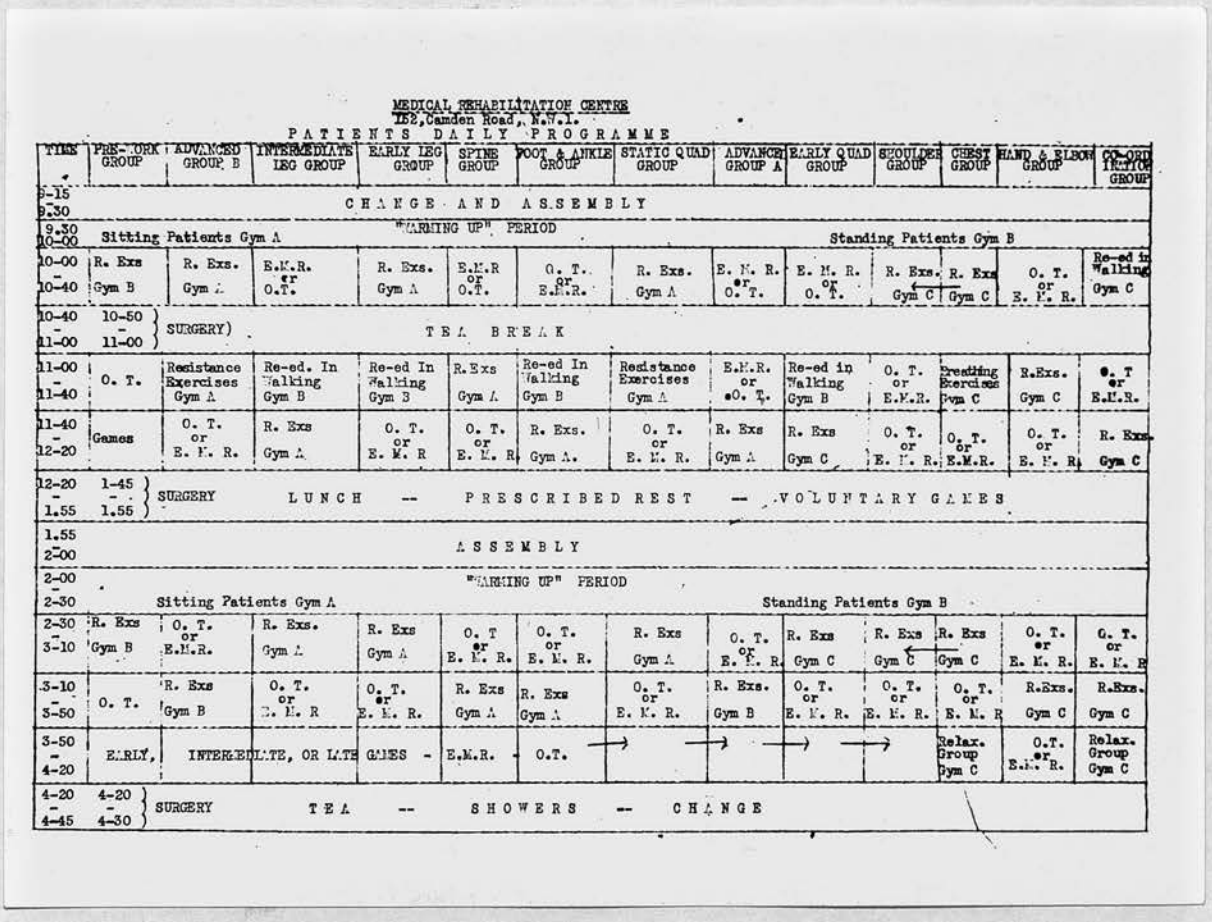
Figure 20

NAME	AGE	DIAGNOSIS	REFERRED BY	TRANS-PORT
Mr.A.W.	62	Right Hemiplegia	Hospital	Amb.
Mr.P.W.	38	Compound fracture of left ankle	"	
Mr.S.W.	42	Fracture dislocation of left ankle	"	
Mr.C.V.	45	Cervical disc protusion	National Dock Labour Board	
Mrs.S.W.	39	P.I.D.	Hospital	
Mr.D.W.	43	Injuries to both knees	"	
Mr.G.W.	59	Rheumatoid Arthritis	"	

Figure (20) shows the basic programme devised by Dr.O'Malley at Garston Manor residential rehabilitation centre. It is included because it was evolved from experience in the Royal Air Force and shows the general pattern of each day's activities. However, in the Candidate's opinion, it is too diffuse for application to an out-patient centre and Figure (21) shows the basic programme which is now in use at the Medical Rehabilitation Centre, 152, Camden Road, London.

The following points should be noted:-

(i) Each remedial period lasts for forty minutes, a period fixed as the result of trial and error. The object of the remedial period is to institute a direct attack upon the disability. If this is



MEDICAL REHABILITATION CENTRE
152, Camden Road, N.W.1.
PATIENTS DAILY PROGRAMME

TIME	PRE-WORK GROUP	ADVANCED GROUP B	INTERMEDIATE LEG GROUP	EARLY LEG GROUP	SPINE GROUP	FOOT & ANKLE GROUP	STATIC QUAD GROUP	ADVANCED GROUP A	EARLY QUAD GROUP	SHOULDER GROUP	CHEST GROUP	HAND & ELBOW GROUP	CO-ORDINATION GROUP
9-15 – 9.30	CHANGE AND ASSEMBLY												
9.30 – 10-00	Sitting Patients Gym A		"WARMING UP" PERIOD							Standing Patients Gym B			
10-00 – 10-40	R. Exs Gym B	R. Exs. Gym A	E.M.R. or O.T.	R. Exs. Gym A	E.M.R or O.T.	O. T. or E.M.R.	R. Exs. Gym A	E. M. R. or O. T.	E. M. R. or O. T.	R. Exs. Gym C	R. Exs Gym C	O. T. or E. M. R.	Re-ed in Walking Gym C
10-40 – 11-00	10-50 – 11-00 SURGERY)	TEA BREAK											
11-00 – 11-40	O. T.	Resistance Exercises Gym A	Re-ed. In Walking Gym B	Re-ed In Walking Gym B	R.Exs Gym A	Re-ed In Walking Gym B	Resistance Exercises Gym A	E.M.R. or O. T.	Re-ed in Walking Gym B	O. T. or E.M.R.	Breathing Exercises Gym C	R.Exs. Gym C	O. T. or E.M.R.
11-40 – 12-20	Games	O. T. or E. M. R.	R. Exs Gym A	O. T. or E. M. R	O. T. or E. M. R	R. Exs. Gym A.	O. T. or E. M. R.	R. Exs Gym A	R. Exs Gym C	O. T. or E. M. R.	O. T. or E.M.R.	O. T. or E. M. R.	R. Exs. Gym C
12-20 – 1.55	1-45 – 1.55 SURGERY	LUNCH -- PRESCRIBED REST -- VOLUNTARY GAMES											
1.55 – 2-00	ASSEMBLY												
2-00 – 2-30	Sitting Patients Gym A		"WARMING UP" PERIOD							Standing Patients Gym B			
2-30 – 3-10	R. Exs Gym B	O. T. or E.M.R.	R. Exs. Gym A	R. Exs Gym A	O. T or E. M. R.	O. T. or E. M. R.	R. Exs Gym A	O. T. or E. M. R.	R. Exs Gym C	R. Exs Gym C	R. Exs Gym C	O. T. or E. M. R.	O. T. or E. M. R
3-10 – 3-50	O. T.	R. Exs Gym B	O. T. or E. M. R	O. T. or E. M. R.	R. Exs Gym A	R. Exs Gym A	O. T. or E. M. R.	R. Exs. Gym B	O. T. or E. M. R.	O. T. or E. M. R.	O. T. or E. M. R	R.Exs. Gym C	R.Exs. Gym C
3-50 – 4-20	EARLY,	INTERMEDIATE, OR LATE GAMES -		E.M.R.	O.T.	→	→	→	→	→	Relax. Group Gym C	O.T. or E.M. R.	Relax. Group Gym C
4-20 – 4-45	4-20 – 4-30 SURGERY	TEA -- SHOWERS -- CHANGE											

Figure 21

Disability groups which are available in organising individual programmes

carried on too long, excessive fatigue results and the patient becomes discouraged.

(ii) The tempo of activity within a group is varied throughout each remedial period and remedial games are included at the end of each period. The games are carefully selected, their objective being to stimulate unconscious use of the disabled part - the indirect approach. The remedial gymnast must ensure that the patient gains benefit from such an activity, and games should be strictly controlled to avoid injury.

(iii) Occupational therapy is reserved for patients who will derive benefit from it.

(iv) The physiotherapy department is referred to as the "Early Mobilisation Room" (E.M.R.). This term was adopted to try to break down the usual conception of such a department as a passive treatment unit, but the title is unwieldy and has not found widespread acceptance.

(v) All patients join in "Warming Up" twice a day. The rationale of this period of activity, carried out to music, is discussed in Section Two (1). The patients are graded into "Early Sitting", "Sitting" and "Standing" "Warming up".

(vi) Constant control is exerted throughout

the day. A duty rota of staff ensures that attendance registers are completed, changing rooms supervised, lunch-time activities controlled and that ambulance arrangements are functioning smoothly. The staff are assisted in certain aspects of this work by the freely-elected patients' committee.

(vii) The presence of sub-groups not included in the disability group filter (Figure 17) should be noted. Small groups for breathing exercises, relaxation exercises, and individual, early and late re-education in walking are held regularly each day.

(viii) Speech therapy is not included in this programme but arranged two or three times per week at the Remedial Meetings. (see Section Two (p).

(ix) All activities must commence promptly and finish on time, otherwise the programme cannot function. No "official" time is allowed for the change-over between groups, otherwise patients wander off to the rest rooms to smoke or gossip and valuable treatment time is lost.

(x) The permutations which are possible, using this programme, are considerable and multiple disabilities in one patient can thus

Figure 22

Early Games Period -
all patients unfit for full weight-bearing activity

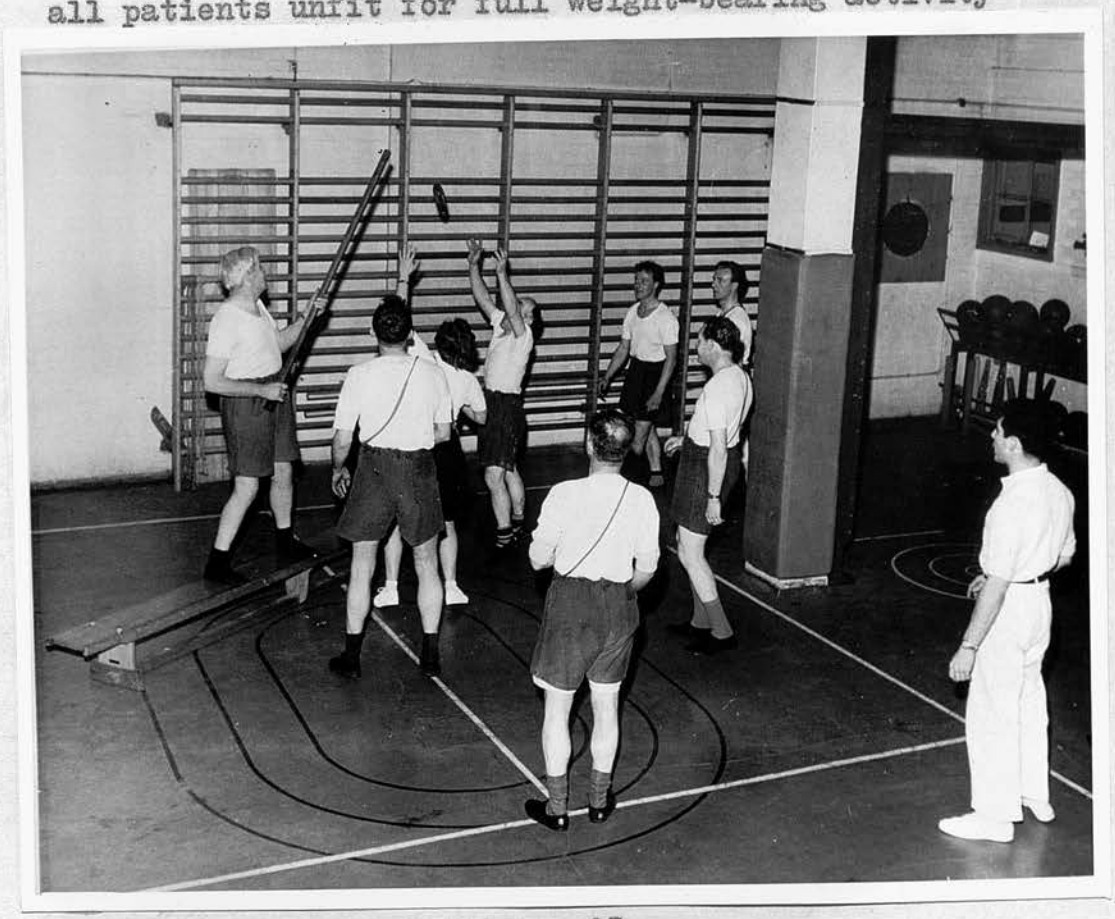


Figure 23

Late Games Period

be handled without difficulty.

(xi) "Prescribed rest" is a part of the programme. Patients who require it lie down on comfortable divans and attend the second sitting at lunch-time. This enables them to rest properly from 12.20 - 1 p.m. and from 1.30 - 2 p.m. each day.

(xii) The majority of the patients take part in a games period from 3.50 - 4.20 p.m. each day. The games are graded into Early, Intermediate and Late Games and the standard of each grade is equated to the patients under treatment at that time. (Figures 22 and 23).

(xiii) The programme provides a valuable "filter" which rejects a patient who is not making progress. Such rejects must be investigated to determine the reason. In many cases this lack of progress is not due to the physical condition but to some psychological or social problem hitherto undisclosed.

(k) <u>The Individual Programme</u>:

As has already been stated, this is derived from the basic programme, and is determined by the history and clinical examination of each patient. It is planned by the doctor and the rehabilitation officer and the patient is given a personal copy of this programme. If the programme is

Figure 24

"Graphdex" boards in use

altered, the patient's copy is also altered. The details of each programme are also recorded in the case notes and on the Remington Rand "Graphdex" boards. (Figure 24). Different colours differentiate males from females and the design of the boards lets one see at a glance whether the balance between departments, and in the groups, is correct.

The boards are moved to the Conference Room for each remedial meeting, and as a result an agreed change can be recorded on the notes and on the boards at the same time. This ensures that the boards are always accurate and up-to-date and not merely an elaboration to impress visitors.

Examples of individual programmes are given in Section Three (i).

Before proceeding to an analysis of the work of the main disability groups it is important to make a clear distinction between a "Remedial Group" and a "Remedial Class". In the former, patients are treated as individuals within the Group. Each member of the Group may or may not carry out a particular activity. The decision rests with the remedial gymnast. He makes the decision with the knowledge obtained at the "New Patients" and "Remedial" meetings.

Figure 25

"Early sitting" "Warming Up"

In the latter, patients are expected to carry out a prescribed schedule of exercises regardless of their individual capabilities. This is a practical proposition in the Armed Services where the age group concerned is small. To attempt to implement it in a civilian Centre is to court disaster.

Analysis of the work of the main disability groups.

"Warming Up":

This particular group activity has already been mentioned in Section Two (j) (v). It takes place from 9.30 - 10 a.m. and from 2 - 2.30 p.m., lasting thirty minutes on each occasion.

(i) "Warming Up" exercises are essential because the human body requires time to bring into play the various physiological adjustments, mainly circulatory, which have to be made before strenuous activity can be undertaken safely. This process is analagous to starting an engine from cold. It has to be allowed to warm up before it functions efficiently and in order to minimise danger to moving parts. When the body is at rest, muscles, tendons and joints are not physiologically prepared for

Figure 26

"Late sitting" "Warming Up"

strenuous activity; the sensitivity of nerve endings in the skin is diminished; and neuro-muscular co-ordination, which gives the body its correct poise is reduced.

(ii) "Warming Up" exercises, carried out to rhythmical music, are also invaluable in helping to re-establish normal communication between the mind and the affected part. One has only to observe a patient who has sustained a simple Colles' fracture of the wrist, a few days after his plaster of paris cast has been removed, to see the need for such an approach. The patient holds his affected upper limb as if it were in an invisible glass case. He fails to use the fingers, elbow or shoulder normally, even if pain is absent. His upper limb has become isolated from his total pattern of body movements. This pattern is easily re-established in "Warming Up".

(iii) This period is also invaluable in producing the feeling of "belonging" to a therapeutic community. It helps to destroy the isolation of the patient and assists him to see his disability in perspective.

Figure 27

"Standing" "Warming Up"

(iv) All that matters during this period is that a patient is moving, or trying to move, in rhythm to the music. No attempt is made to correct faulty patterns of movement because this can be done more easily and efficiently in the remedial groups which follow.

(v) In patients who have spent many months in recumbency or in a wheel-chair, proprioceptive sensation is diminished. This period helps to regain this vital loss.

(vi) All patients are graded into "Early Sitting", "Sitting", or "Standing" "Warming Up". This grading is reviewed weekly. All the grades are working to the same gramophone record, but the tempo is controlled by its gymnast to produce the best response without undue fatigue or frustration. (Figures 25-27).

SHOULDER GROUP

Common Conditions Treated:

1. Fractures of the scapula, clavicle and humerus.
2. Dislocations of the shoulder joint.
3. Arthritis of the shoulder joint.
4. Stiff shoulders following trauma without bony injury.
5. Sub-acromial bursitis, supraspinatus lesions, "Frozen" shoulder.

Figure 28

Shoulder Group

6. Brachial plexus lesions involving shoulder girdle.

7. Poliomyelitis resulting in paresis of muscles controlling the shoulder girdle.

8. Hemiplegia.

9. Cervical spondylosis (certain cases).

Objectives or aims:

1. To obtain a maximum range of shoulder girdle movement.

2. To ensure that a normal scapulo-humeral rhythm is re-established and maintained, even against resistance.

3. To develop the power of the shoulder and arm muscles.

4. To improve the co-ordination of these muscles.

Remedial measures: (Figure 28)

The great difficulty confronting the remedial gymnast for this group is the tendency of the patient to develop "trick" movements. The normal movement is difficult to perform consciously as the result of the disability, and the patient circumvents this by various means:-

(a) If forward flexion of the arm is limited, the patient compensates by lordosis of the spine.

(b) If extension of the arm is limited, the patient compensates by flexion of the spine.

(c) When abduction of the shoulder is weak, the patient gains a mechanical advantage to initiate abduction by lateral flexion

of the spine.

All these must be prevented by ensuring that the patient maintains a correct posture while carrying out his exercises.

Emphasis is placed at all times on restoring a full range of rotation at the gleno-humeral joint. Free-swinging exercises are used and, in the early stage, these movements are performed in a stooping position. Assistance is given to the affected limb by the normal upper limb on an auto-assisted basis.

Remedial games:

These are invaluable at this stage, especially on an individually competitive, rather than a team, basis. Examples are darts, quoits, badminton, table tennis and ball-passing games with light balls or bean-bags.

HAND AND ELBOW GROUP.

Common conditions treated:

1. Fractures of the shaft of the humerus which are immobilised in plaster of paris.
2. Dislocations and fracture dislocations of the elbow joint.
3. Fractures of the radius or ulna.
4. Fractures involving wrist or fingers.
5. Soft tissue injuries of arm, forearm or hand.
6. Arthritic conditions involving elbow, forearm, wrist or finger joints.

7. Brachial plexus injuries involving elbow, forearm, wrist or hand and fingers.
8. Poliomyelitis resulting in paresis of muscles controlling elbow, wrist, hand or digits.
9. Peripheral nerve injuries involving median, ulnar or radial nerves.
10. Hemiplegia following cerebral thrombosis or embolism.

Objectives or aims:

1. To restore movement and power to the elbow, forearm, wrist and fingers.
2. To restore dexterity to the hand, and teach its use as a functional unit.
3. To ensure a normal sensorial feed-back.
4. To harden the skin after a prolonged disability.

Remedial Measures:

Numerous free-swinging exercises may be used, and assisted exercises using the good arm. It is important that no passive or even assisted exercises should be given under any circumstances to the elbow joint. It is sensitive, and any passive movements will lead to a decrease in elbow movement, not an increase.

The patient should handle objects during most of the exercise period. Ropes, quoits, balls of various types, sticks, coins and so on are used, with the hand acting as a unit to develop both the power and precision grip. Each patient is given a squash ball or sorbo-rubber roller which is carried

in a pocket and squeezed at every opportunity to improve the power of the grip.

CHEST GROUP.

Common conditions treated:

1. Asthma
2. Bronchitis
3. Emphysema
4. Post-lobectomy or pneumonectomy cases
5. Bronchiectasis.

Objectives or aims:

1. To restore the mobility of the chest and shoulder girdle.
2. To improve the vital capacity.
3. To improve respiratory efficiency on stairs and other functional activities.
4. To teach relaxation.
5. To improve posture.

Remedial measures:

Chest expansion and improvement in the vital capacity is achieved by localised and general breathing exercises. These may or may not be carried out in association with arm movements. Free-swinging exercises are invaluable for mobilising the shoulder girdle and thorax. In the later stages exercise poles may be used to reinforce this effect.

The art of relaxation must be taught to this type of patient who is usually tense and anxious.

The ability to relax at will is of tremendous value in controlling the "panic reaction" which precedes an attack of asthma, thus aborting or minimising the severity of the attack.

A pattern of breathing must also be taught in relation to stair climbing and other every day activities. The patient's tolerance is gradually built up by increasing the scope and severity of the activities.

Remedial games:

These have usually to be played in a sitting position in the early stages. Games such as ball-passing and simple relays are used, gradually progressing to standing and walking relay games.

EARLY QUADRICEPS GROUP.

Common conditions treated:

1. Rheumatoid arthritis involving knee.
2. Anterior poliomyelitis involving lower limbs.
3. Hemiplegia following cerebro-vascular accidents.
4. Severe osteo-arthritis of hip and knee.
5. Fractures of the femur with insufficient union to allow weight-bearing.

Remedial measures:

The primary object of the group is to re-develop the quadriceps extensor muscle, especially the vastus medialis component. The exercises are non-weight bearing in character and consist of static contractions, and numerous variations of a

straight leg-raising exercise using the quadriceps statically to support the weight of the lower leg. These exercises should be performed without an extension lag being present. (See - "Static Quadriceps Group".)

The importance of performing these exercises in a long sitting position is not always appreciated, and all too often straight leg exercises are carried out in the lying position. In the lying position most of the work is performed by the ilio-psoas muscle not the quadriceps.

Remedial games:

This group of patients does not lend itself to specific games directed at the individual disability. However, where possible, numerous ball-passing games under the legs can be introduced and other minor team games to raise the morale of the group as a whole.

STATIC QUADRICEPS GROUP.

Common conditions treated:

1. Fractures of the femur
2. Dislocations of the patella
3. Excision of the patella
4. Meniscus injuries
5. Ligamentous injuries of the knee
6. Arthritis of the knee
7. Poliomyelitis
8. Soft tissue injuries of the thigh

Figure 29

Static Quadriceps Group

9. Hemiplegia

10. Disseminated sclerosis with quadriceps insufficiency

Objectives or aims:

1. To redevelop the quadriceps muscle, especially vastus medialis

2. To redevelop the glutei and muscles of the lower leg

3. To mobilise affected joints

Remedial measures: (Figures 29 and 30)

These are most easily considered in relation to the objectives of this group:-

(1) "To redevelop the quadriceps muscle, especially the vastus medialis". This is essential for a stable knee.

(i) Some of the patients will still be unfit to bear weight on the affected limb and will be ambulant with crutches. Some of these injuries necessitate immobilisation in plaster of paris, or splints and limitation of knee movement is common. Quadriceps redevelopment is commenced by means of non-weight bearing exercises. The patients sit on a mat or low bench and carry out static quadriceps contraction and relaxation. The test of quadriceps function at this stage, is the presence or absence of "extension lag" on straight leg raising. Extension lag can be defined as the development of a flexion deformity of the knee when the limb is raised with the knee

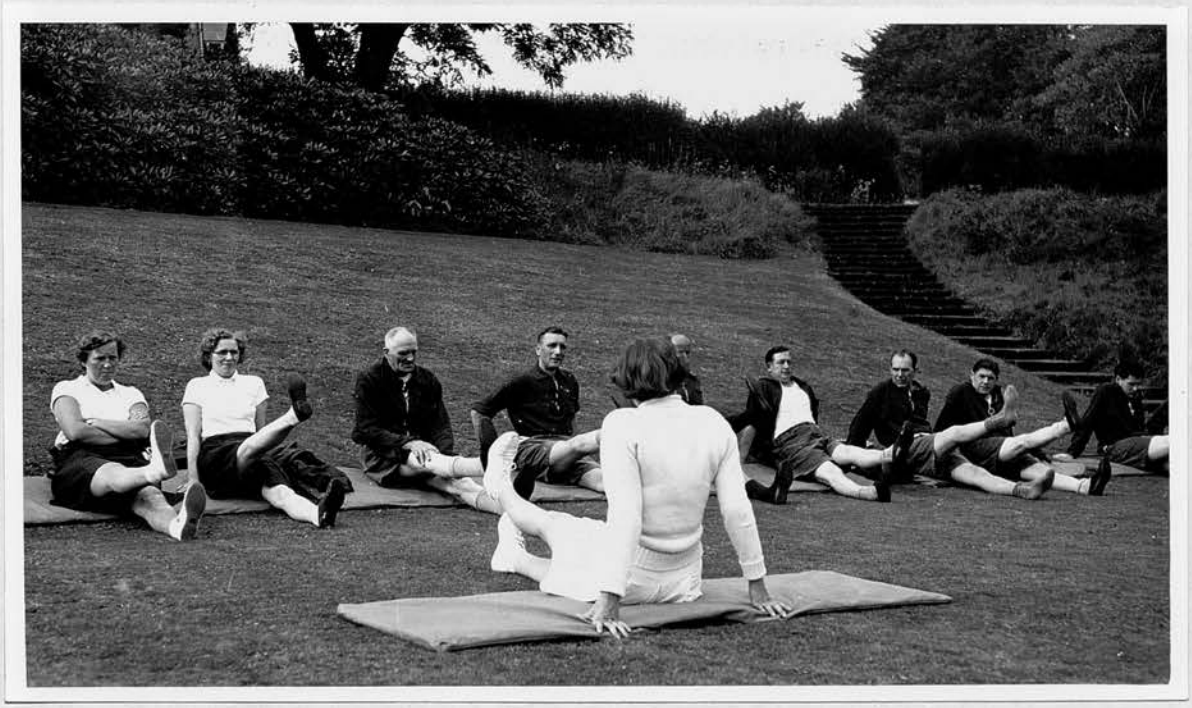


Figure 30

Static Quadriceps Group

extended. It is intimately related to the degree of power present in the vastus medialis i.e. the weaker the vastus medialis the greater the lag. This is true of extension lags up to 10^{o}. Above this figure insufficiency of the other components of the quadriceps muscle is also present.

(ii) When the patient can carry out rhythmic quadriceps exercises without a lag then graduated weights are added. These consist of sandbags or Delorme boots, with or without added weights. The girth and power of the muscle are recorded weekly. The range of active and passive knee movement is also noted weekly. (Figure 29). The most common complication is the development of an effusion into the knee joint. This is usually due to lack of control of the activity of the patient. This is a difficult group to handle as the exercises are, of necessity, monotonous. A good remedial gymnast is essential at this stage.

(iii) Patients then progress to alternate leg raising, leg swinging, standing on the uninjured limb and exercises lying in the supine position.

(2) "<u>To mobilise affected joints</u>":

The hip and the knee can be mobilised to a

Figure 31

Quadriceps Group

certain extent at the same time. The problem of the stiff knee is discussed later when considering the "Intermediate Leg Group". Abduction of the hip can be carried out lying on the floor with the ankle supported on a cradle with ball-bearing castors. This helps to eliminate resistance due to friction but care must be taken to see that the pelvis is fixed while such an exercise is being carried out. Separation of the flexed knees produces external rotation of the hip joints. Internal rotation is achieved by separating the heels while keeping the knees together. Extension of the hip joint is first carried out lying on the sound side and later on the face.

So far as mobilisation of the knee is concerned, it is the Candidate's experience that it is useless to carry out flexion exercises, active or passive so long as an extension lag is present. Any increase in knee flexion gained at the expense of knee extension is of no permanent value to the patient, and only results in the presence of a further disability - the unstable knee - which in many ways is a greater physical handicap than the stiff knee. (Figure 31).

CO-ORDINATION GROUP.

Figure 32

Coordination Group

Conditions treated:

1. Disseminated sclerosis - in remission phase.
2. Post-encephalitic Parkinsonism.
3. Cerebellar degeneration.
4. Post-Fenestration.
5. Head injuries.
6. Post operative cerebral tumours.

Objectives and aims:

1. To improve co-ordination and balance.
2. To improve muscle power and joint range.
3. To restore confidence.

Remedial treatment:

In the early stages of treatment the Frenkel type of exercises may be used. This is replaced at the earliest opportunity by the use of normal total pattern movements to improve proprioceptive sensation. These movements are very simple in character in the first instance, gradually progressing to more complex movements. Balance exercises are also used, both with and without head movements. (Figure 32). The acquisition of skill to perform gymnastic movements is not enough in itself. They must be related to normal living and the patient given the confidence to use these skills. Exercises are thus devised to restore confidence. Minor obstacle courses are devised, the patient having to get up and down from the floor, pass under a 3" high stick, and then over an 18" high stick. They

Figure 33

Coordination Group - restoring confidence

are taught to climb stairs, negotiate narrow openings and passages, and various types of surfaces. This type of patient has often lost confidence and possesses a tremendous reservoir of function that is not being exploited. A routine similar to that outlined helps to bring out this lost function. (Figure 33).

Remedial games:

Games such as ball passing, both in a sitting and standing position, help to stimulate the balance reflex. Relay races around small obstacles help to restore confidence and balance and have a tremendous effect on the morale in this type of patient. Minor group games, usually carried out sitting, help to improve balance and confidence.

INDIVIDUAL RE-EDUCATION IN WALKING.

Conditions treated:

Most disorders of locomotion where the patient has acquired a bad pattern of walking or has not walked for a considerable period of time. These patients may be amputees or suffering from fractures of the lower extremities, neurological conditions, poliomyelitis, spinal deformities, or other conditions where the normal pattern of walking has been disturbed.

Objectives or aims:

1. To build up a good pattern of walking.
2. To give the patient confidence in using

Figure 34

Early Re-education in Walking Group

walking aids, appliances and in negotiating stairs.

3. To build up the patient's walking tolerance.

4. To correct bad habit limps.

Remedial Treatment:

The emphasis in this group is very much on the individual approach. The physiotherapist spends a considerable time in giving the patient the necessary confidence in taking the first steps. If it is the first time a patient has tried to walk, following accident or illness, the problem is relatively simple. From the outset a good walking pattern can be built up on a progressive basis, and bad habits can be checked up at once. In a patient with an established bad habit, the problem is more difficult and demands a great deal of perseverence on the part of the physiotherapist and the patient. It must be a case of practice, practice and practice.

Once a good habit has been achieved, the patient can be progressed to the "Early Re-education in Walking Group". (Figure 34). If appliances or walking aids are used, they must be of a good fit, or of the right length in the case of crutches or sticks. A good general rule is "two sticks or no sticks" - otherwise a habit limp is produced which is difficult to eradicate later. It must be obvious however, that a hemiplegic patient cannot use two sticks. In this group a patient makes

Figure 35

Early Re-education in Walking Group - restoring confidence

his first attempt at stair climbing. This is done under supervision, the number of stairs gradually increasing each day. When the patient is confident of his ability to negotiate stairs, he is usually ready to be progressed to the next group. The time taken to negotiate a given number of stairs is noted weekly to help assess progress.

In the "Late Re-education in Walking Group" sticks are discarded.

Remedial games:

It is not appropriate with this group to use games as such but possible to introduce one or two activities, sometimes in pairs, and perhaps a few minor obstacles to negotiate, on a competitive basis. (Figure 35).

FOOT AND ANKLE GROUP.

Common conditions treated:

1. Fractures of the tibia and fibula.
2. Fractures of the ankle and foot.
3. Arthritis of the ankle or foot.
4. Soft tissue injuries of leg or foot.
5. Poliomyelitis affecting leg or foot.
6. Peripheral nerve injuries with paresis of leg or foot muscles.
7. Congenital or acquired deformities of foot and ankle.
8. Rheumatoid arthritis affecting the feet.
9. Neurological conditions with weakness of the lower leg muscles.

Figure 36

Foot and Ankle Group

Objectives or aims:

1. To re-develop leg and feet muscles.
2. To mobilise affected joints.
3. To teach the patient the basic principles of a normal gait, i.e. balance, even rhythm, and a "spring" walk.
4. To restore confidence and co-ordination.

Remedial measures: (Figure 36)

The initial non weight-bearing exercises are carried out with the patient sitting and the lower leg immersed in hot water. As many as twelve patients can be treated in this way by using a large footbath. Hot water is an excellent means of relieving pain and muscle spasm as a preliminary to more active work. In the sitting position all movements of the ankle are carried out; quickly, to assist mobilisation; in a slow and controlled manner to re-develop the lower leg muscles.

The footbath is also an excellent means of starting early weight-bearing exercises. By holding on to a rail, the patient can gradually get the feel of taking weight on the injured leg and the body weight can gradually be introduced as a means of producing mobilisation of the foot and ankle. If oedema is present, activity in elevation is the best means of treating both the symptoms and the cause.

In this group the restoration of a "spring" walk is most important. Numerous exercises may be

used to achieve this. The establishment of normal walking rhythm is insisted upon, as many patients in this group have developed a faulty pattern of walking.

As the patient resumes full weight-bearing exercises for balance and climbing, activities involving inclined slopes and walking on narrow and uneven surfaces and raised ground are introduced to restore mobility, strength and co-ordination and to increase confidence.

Remedial games:

In the early stage of recovery games may be non weight-bearing in character, such as ball passing relays, with the feet, floor draughts, using the feet, quoits, using the feet, and individual activities such as screwing up a bandage or a newspaper with the feet.

In the weight-bearing phase of treatment pair activities may be introduced, such as pulling or pushing on a competitive basis, jumping and walking relay races. Ball passing games are also useful.

EARLY LEG GROUP.

Common conditions treated:

1. Hemiplegia.
2. Amputees.
3. Disseminated sclerosis.
4. Anterior poliomyelitis.

5. Arthritic conditions.

Objectives and aims:

1. To mobilise the joint of the lower extremity.
2. To improve the power of the muscles of the lower extremity.
3. To improve ambulation and increase exercise tolerance.
4. To restore confidence.

Remedial measures:

The average age of the patients in this group is usually high and thus their tempo of activity is inevitably low. Activities are usually performed lying on a gym mat to allow better non-weight exercises to be performed. These are aimed at mobilising the hip, knee, and ankle joints; and to improve the power and efficiency of the muscles acting over these joints. Functional activities are also taught, such as getting up and down from a chair and from the floor, and how to manage stairs.

INTERMEDIATE LEG GROUP.

Common conditions treated:

1. Fractures of the femur.
2. Fractures of the tibia and fibula.
3. Fractures of the patella.
4. Meniscus injuries.
5. Excision of the patella.
6. Ligamentous injuries of the knee.
7. Arthritic conditions of the knee.
8. Poliomyelitis.

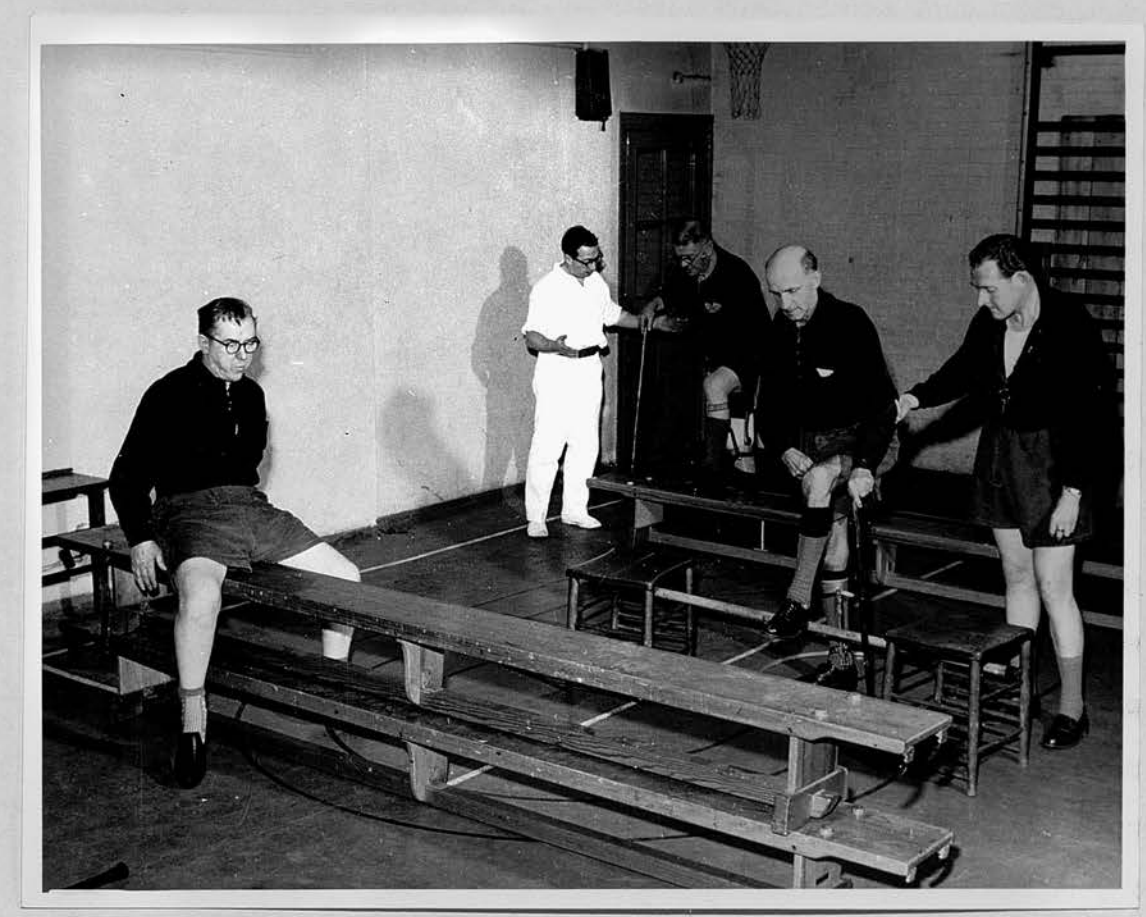


Figure 37

Intermediate Leg Group

9. Reconstructive surgery of the hip.

10. Soft tissue injuries of the leg.

11. Fractures of the foot.

Objectives or aims:

1. To continue development to the leg musculature.

2. To restore full movement of the hip, knee and ankle joint.

3. To encourage a normal gait.

4. To re-establish confidence.

Remedial measures: (Figure 37).

Patients carry out active knee, hip and ankle exercises in a lying, sitting and standing position. Every effort is made to restore the normal joint range and to develop sufficient muscle power to control this increased range of movement. Muscle development is achieved in a more functional pattern of movement to previous groups. Stepping up and down from the floor on to a bench, climbing stairs, wallbars etc., achieve this. Minor obstacle courses help to restore confidence, and also balancing exercises on narrow and raised surfaces. Rowing, swimming and cycling are all of value in this group. The emphasis moves from an anatomical to a functional approach.

It has now been accepted that strong passive movement of a stiff knee, or its manipulation under anaesthesia, seldom increases the range of knee

movement. This is especially true of manipulation under anaesthesia, the usual result of which is to produce a painful knee with a large effusion associated with partial or complete inhibition of the quadriceps. When the pain and effusion have subsided, and the patient is able once more to move his knee actively, allthat has been produced is perhaps a slight increase in knee movement which consists entirely of an extension lag. In many cases a decrease in knee movement is the only result.

In the Candidate's experience manipulating a knee under anaesthesia is indicated only if the following conditions are fulfilled:-

(a) No increase in range after intensive exercises carried out for about four weeks.

(b) The "block" to flexion feels "bony" and not "springy".

(c) The quadriceps muscle has been re-developed by remedial exercises as far as possible.

(d) X-rays of the knee show no contra-indication to forced flexion and associated conditions, such as fractures of the tibia, will not be adversely affected by manipulation.

(e) No evidence of latent infection is present i.e. the presence of a normal temperature, pulse, erythrocyte sedimentation rate and white blood count is confirmed.

(f) No intention exists of attempting to achieve more than 10^{o} of flexion by means of any one manipulation.

(g) Heavy massage of the quadriceps muscle in an attempt to free it from the underlying femur has failed to increase the range of knee movement.

(h) The patient has the personality and the pain threshold to carry out exercises immediately following upon the manipulation.

This question has been dealt with at some length simply to emphasise the fact that strong passive flexion of even the knee joint has a small place in treatment. Many patients fail to appreciate this, as do some physiotherapists.

Remedial measures:

The range of knee movement can be increased by active exercises carried out with or without some forcing. The patients must be fully weight-bearing to participate in these exercises. The forcing does not consist of anything more vigorous than the use of the body weight and is limited by the discomfort experienced by the patient. Lunging exercises, stepping off with the injured leg, rhythmic jumping exercises, crouch-hopping, wall bar exercises and stair climbing are all valuable in increasing the range of knee movement. The use of a rowing machine has also proved of value, as has cycling using a machine with an adjustable crank.

In the occupational therapy department, the bicycle fretsaw, the lathe and the potter's wheel are all of value in increasing the power of the

quadriceps and the range of knee movement.

Remedial games:

These are of value in increasing confidence in the normal use of the affected limb. Suitable games are fast-walking relays, running under low beams in the gymnasium, obstacle races, walking and sitting football and tug-of-war. Skittles played correctly with the injured leg forward is a valuable means of improving the range of knee movement as the patient's attention is diverted from his disability.

INDIVIDUAL SPINES GROUP.

Conditions treated:

1. Anterior poliomyelitis affecting spinal and abdominal musculature.
2. Older age groups with osteo-arthritis of the spine.
3. Disseminated sclerosis with poor spinal muscles in remission phase of illness.
4. Patients whose level of function will not allow them to join in the "Spines Group".

Objectives or aims:

1. To build up the spinal and abdominal musculature.
2. To improve posture.
3. To improve range of spinal movements.
4. To teach patients how to change position in bed, and how to get up and down from the floor.

Remedial treatment:

The tempo of activity of this group is of necessity a very low one. Considerable time

may be spent in getting these patients down on to a mattress in readiness for their spinal exercises. Exercises in prone lying are taught, firstly by moving the arms on the trunk, and then by extending the legs on the trunk. These movements may be combined in numerous ways if the patients can in fact manage it. Rotation and side flexion movements are also taught, and the patient can then be shown how to roll over to a back lying position. Exercises may now be taught for the abdominal muscles. The patient should now be taught how to get up from the floor on to a chair, and in this position the preliminary steps are taken as regards a good sitting posture. This is usually very poor in patients in this group.

Remedial games:

Pair activities may be used with light balls. Blow football or modified handball can also be taught. In the sitting position, ball-passing relays can be used with very good effect. The level of activity is of course very low, and so the games must be simple.

SPINES GROUP.

Conditions treated:

1. Prolapsed intervertebral discs.
2. Fractures of the vertebral bodies or processes.
3. Soft tissue injuries of the spine.
4. Herniotomy, and post abdominal operations.

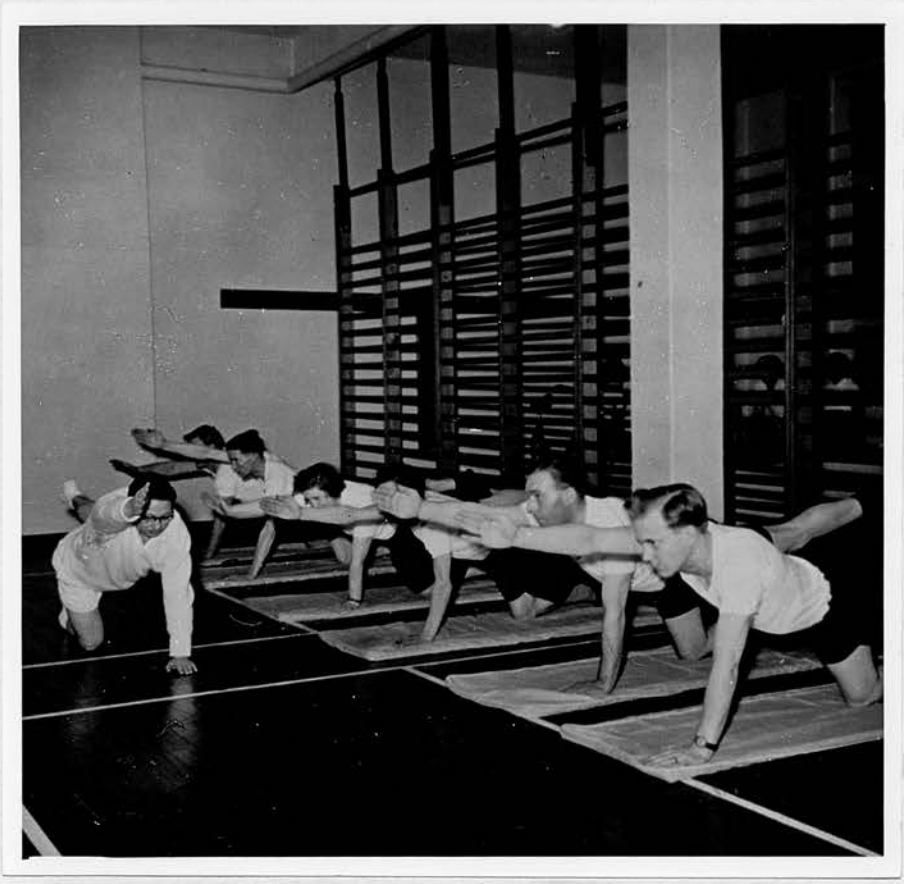


Figure 38

Spines Group

5. Patients following reconstructive surgery of the hip.

6. Patients with poor spinal posture.

7. Anterior poliomyelitis involving abdominal and spinal musculature.

Objectives or aims:

1. To maintain and restore normal muscle power.

2. To regain spinal mobility.

3. To correct and maintain posture.

4. To teach correct methods of lifting and carrying.

5. To restore confidence.

Remedial treatment: (Figure 38)

The main emphasis is to build up the spinal muscles by means of hyper-extension exercises. These are usually carried out in the prone lying position, the legs being moved on the trunk, together with the arms in a variety of combinations. Good spinal and abdominal musculature is essential to a stable spine. In the later stages of treatment the strength of the exercises are stepped up by introducing medicine balls of varying weights, the use of sticks, and by increasing the effect of gravity during the exercises. Pair activities can be introduced with sticks and medicine balls which help to strengthen the spinal muscles and also mobilise the spine as a whole. Pushing and pulling activities can also be used as an introduction to heavier activities.

Emphasis should now be thrown on to the correct methods of lifting and carrying, showing how a straight back, with correct head carriage and flexed at the hips with knees bent, allows the hip and leg muscles to do most of the work. When the patient has achieved a satisfactory standard with a bar-bell, weighted sacks, boxes and barrels, of varying weights can be introduced. These should then be lifted and carried in numerous ways, and up ramps and steps, in a similar manner to the industrial worker.

Remedial games:

A tremendous variety of games may be used for patients with spinal lesions. These may be on a pair and competitive basis, with the emphasis on a straight back and little spinal movement. Team and relay games can also be used involving little or no flexion of the spine. Games and relays, such as tunnel ball, sitting football and ground handball can be introduced at a later stage.

ADVANCED GROUP "A".

Conditions treated:

1. As for hand and elbow group.
2. As for chest group.
3. Fractures of the cervical and dorsal spine.

Objectives or aims:

1. To restore full power and range in the upper limb.

2. To restore confidence in using the upper limbs and spine under strenuous conditions.

Remedial measures:

The pattern of the exercises are similar to the hand and elbow group, but the tempo and resistance is stepped up. Heavy weight lifting, heavy medicine balls, lifting and carrying bags, boxes and barrels may be introduced. Climbing activities up ropes, wallbars and scaffolding are used to restore confidence. Pair activities on a competitive basis with medicine balls, pulling and pushing with sticks etc., also provide an excellent means of introducing competition into the group.

Remedial games:

This group can participate in most games. Badminton, basket ball, skittles, ball-throwing and relay and team games are invaluable.

ADVANCED GROUP "B".

Conditions treated:

1. All fractures and soft tissue injuries of the lower extremities.
2. Spinal fractures and soft tissue injuries in lumbar spine or lower.
3. Mild osteo-arthritis conditions of the spine and lower extremities.
4. P.I.D. cases and psychogenic fibrositis.

Objectives and aims:

1. To restore full function of the injured part.
2. To restore confidence in the use of the injured part.

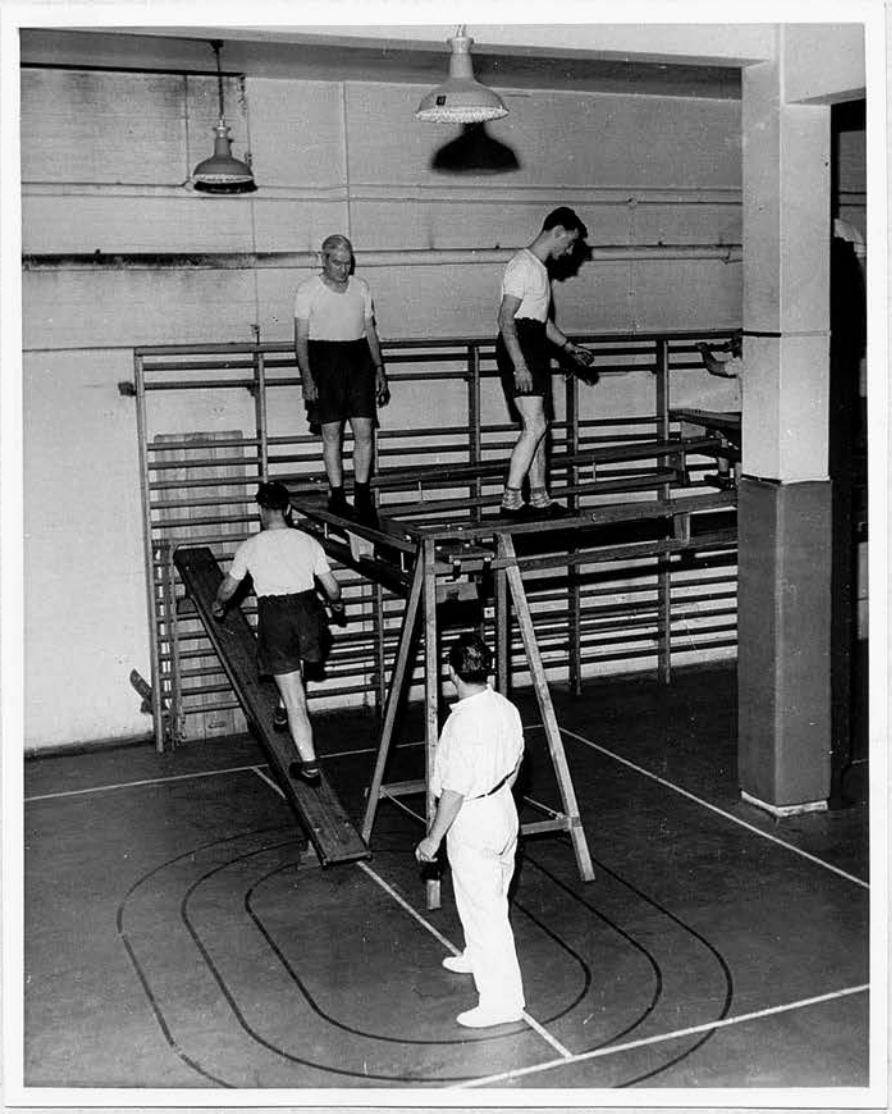


Figure 39

Pre-work Group

3. To build up the exercise and work tolerance of the patient.

Remedial treatment:

The aim of treatment in this group is to move the emphasis away from the disability and to treat the patient as a whole. Specific exercises should be given to regain any residual stiffness left in a particular joint. The emphasis can be thrown on a particular part of the body according to the type of patient making up the group. In any case, it is important that work and exercise of a general nature should be given. The exercise tolerance should be increased, and activities involving lifting and carrying introduced. Activities to restore confidence such as climbing, running, jumping and working at heights should also be introduced. These are started at a very low tempo of activity and skill, gradually building up in strength and complexity.

Remedial games:

Pair activities using sticks and medicine balls are excellent to start giving a patient self-confidence. Ball-passing and running relay games demand a high level of activity, and may be followed by team games, such as "ring the stick", volley ball, basket ball and so on. Swimming is also of value to this group. Patients visit a local swimming pool every week.

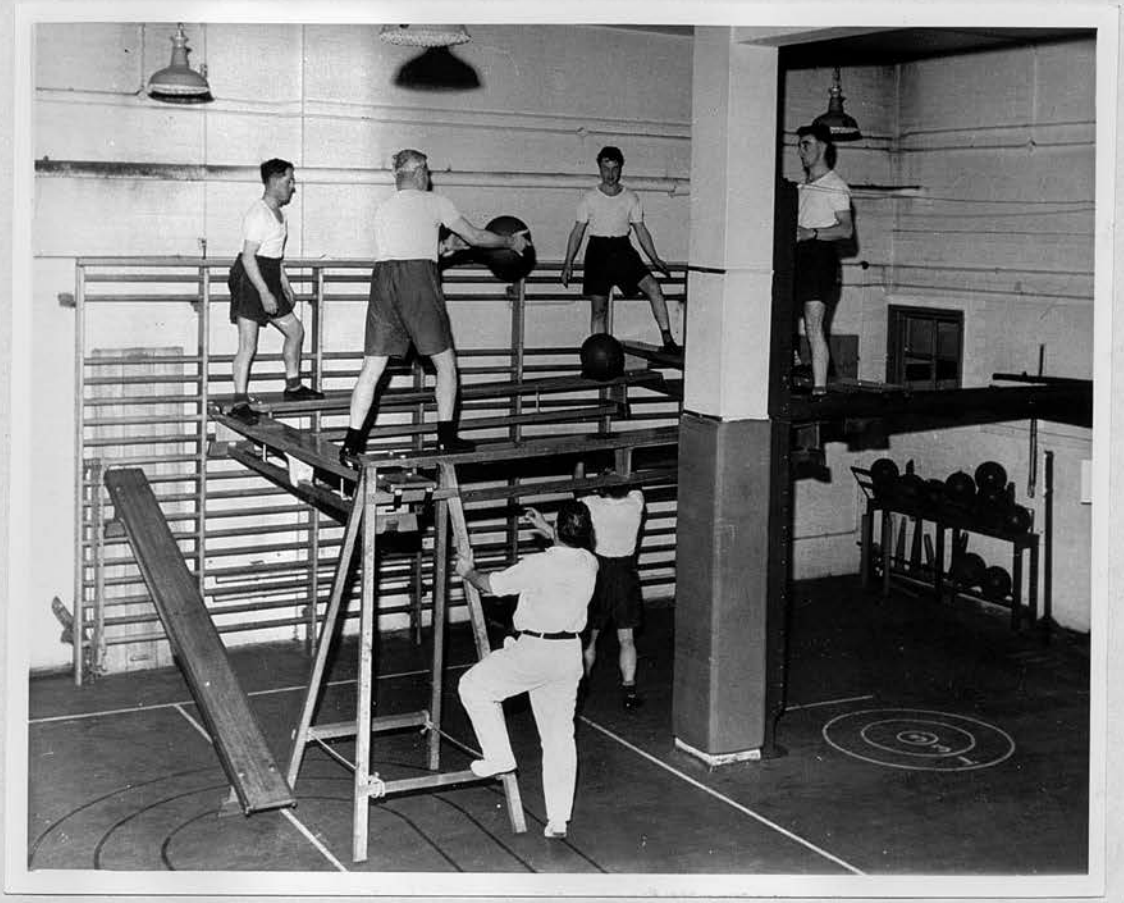


Figure 40

Pre-work Group

PRE-WORK GROUP.

Conditions treated:

1. All conditions where the patient is expected to return to industry with a high level of function, i.e. scaffolders, labourers, dockers and stevedores.

Objectives or aims:

1. To restore confidence.
2. To prove to a man that he is capable of working at a high and strenuous level of activity.
3. To build up work tolerance, and restore any remaining loss of muscle power.
4. Where possible, to simulate the working conditions that a man has got to go back to.

Remedial treatment: (Figures 39 and 40).

This group of patients participate in a very high level of general gymnastic exercises. The primary disability is of secondary importance, the emphasis being on restoration of confidence and to show a man his remaining capabilities. Circuit training is introduced as a means of building up the strength and stamina of the individual. Work conditioning involves running, jumping, climbing ladders and ramps. Lifting and carrying objects such as sacks, boxes and barrels up inclined surfaces and along cat-walks, and various throwing activities are introduced, all aimed at giving a man confidence.

Remedial games:

Pair activities designed to develop strength

Figure 41

Pre-work Group - digging foundations
for new path at St. Columba's Hospital

of grip, back and legs are invaluable. For this purpose sticks, medicine balls or benches may be used. The more active relay games, and team games such as basket ball, sitting football, ground handball, are also introduced.

This group has the specific objective of proving to a patient that he is fit for work, and achieves this more effectively than any consultation with a doctor. (Figure 41). If a patient, after a period in this group, asks for a final National Health Service certificate to allow him to resume his previous employment, then success has been achieved.

(m) EARLY MOBILISATION ROOM
(Physiotherapy Department)

The most drastic change in this department has been the removal of all cubicle rails, curtains and cubicles, only a few screens being retained for the few occasions when privacy is essential. This has allowed better control of the patients by the staff, an increase in the number of patients treated safely at one time, and an end to the sense of isolation induced by a vista confined to four walls or curtains. This change was naturally facilitated by the patients all having appropriate clothing supplied. (Figure 42).

The major contribution of this department is made in the earlier stages of recovery when the patient's programme is biassed towards individual

Figure 42

Corner of Early Mobilisation Room

treatment. However, such disability groups as the "Co-ordination Group", "Shoulder Group", "Individual re-education in walking", Early Spines Group" and the "Relaxation Group" take place onee or twice daily in the adjacent gymnasium, and are conducted by the physiotherapy staff.

The equipment has already been detailed in Section Two (d). The crucial matter is that the work in the Early Mobilisation Room (E.M.R.) is considered as complementary to the other aspects of the work of the Centre.

Patients must progress with the least possible delay, from the individual treatment in the E.M.R. to group activity.

It is desirable to apply some form of heat to stiff and painful joints before they are used actively, and this is easily arranged. The results appear to be equally good, in general, whatever form of heat is applied. Most of the patients expect some form of passive treatment when they first commence treatment and would probably fail to co-operate if this were not prescribed. Each patient has to be weaned from his passive treatment as rehabilitation proceeds. The Candidate is forced to admit that, on many occasions, the therapeutic value of the physiotherapy prescribed is limited to that of a vehicle of suggestion. If this is appreciated, no harm results.

Figure 43

Light Occupational Therapy Department - printing, clay modelling, paper trimming and clerical work in progress.

Patients with limitation of joint movement and muscles too weak to work against gravity are mobilised using suspension apparatus. Auto-assisted pulley exercises are also useful for patients with stiff shoulders.

The staff of the E.M.R. is encouraged in common with the rest of the staff, to observe each patient's progress throughout the Centre.

(n) THE OCCUPATIONAL THERAPY DEPARTMENT.

The major items of equipment have been described in Section Two (d) and some general observations relating to the policy of such a department have been outlined in Section Two, (h) (vi). (Figures 43 and 44).

The function of the Department may be summarised as follows:-

(i) To assist in the mobilisation of stiff joints especially in the upper extremities.

(ii) To redevelop weak muscles.

(iii) To improve co-ordination and fine finger movements.

(iv) To assess a patient's attitude, aptitudes, perseverance, and inclinations and so give useful advice concerning resettlement.

(v) To improve work tolerance.

(vi) To help severely disabled patients in the activities of daily living - with aids provided only when essential.

(vii) To provide a medium for resocialisation.

Not surprisingly the spectre of the old-

Figure 44
Heavy Occupational Therapy Department

Figure 45
Clerical Section - Light Occupational Therapy Department

fashioned occupational therapy department, crowded with weaving looms, woolly rabbits and little leather purses still haunts its modern progressive successor, particularly as the breed is not wholly extinct. The modern department has a large part to play in the assessment of a patient, and while the physical assessment is relatively simple, it is only part of the problem. (Figure 45).

> "The social factors involved are also important. A new job may carry a smaller salary, be of a lower social status and so bring in the factor of industrial degradation, which tends to be under-estimated in hospital. You must find out, as far as you can, the level of intelligence of the patient. Find out if he could ever cope with the job which has been suggested. It may well be that his educational level may preclude his attempting certain occupations ... It is no use to try to train a man for a job in which he is not interested. He must have the urge to do the job. It is very important to leave room for trial and error, so that the patient feels that this assessment is not a sort of examination, but a joint experiment between himself and you."
> (Sommerville, J.G.) (16)

A number of "production runs" are maintained in the Centre workshops. These are quite easily obtained but there can be no question of a guaranteed weekly output as the output depends upon the number of suitable patients available and the summation of their individual weekly output. Caliper straps are made for a local firm of surgical appliance makers. They provide the leather, the patients cut the straps, punch them, mark them and stain them, and they are then returned to the firm.

Figure 46

Heavy Occupational Therapy Department - metal working section.

Note double amputee using vertical power drill.

This costs the National Health Service nothing; and it provides work which the patient can appreciate as useful in relation to his fellow-patients. The firm concerned makes a regular contribution to the Patients' Guild, roughly equivalent to what it would have cost to pay an employee to produce the same output.

In the same way, the ends of aluminium strips are beaten out and drilled for use in spinal braces; notepaper, visiting cards, calendars and labels are printed, and heavy drilling and welding carried out on occasions for a local garage. (Figure 46).

There are only two small looms at the Centre and they are used for the remedial treatment of a quadriceps extension lag. Only table mats or dishcloths are woven so that the patient can be progressed to more active work when the clinical signs have disappeared rather than be retained in the department to complete a length of Royal Stewart tartan.

In the summer, cross-cut sawing, log splitting and gardening are carried out in the grounds of St.Columba's Hospital, Hampstead. (Figures 47 and 48).

There is, at present, a tendency to over-emphasise the role of the Occupational Therapy Department in relation to the provision of "aids to daily living". These consist of simple gadgets which facilitate dressing and undressing, darning,

Figure 47

Creosoting timber at St. Columba's Hospital

Figure 48

Gardening at St. Columba's Hospital

cooking and housework. A number of Welfare Departments of County or Borough Councils are now issuing such "aids" without the benefit of skilled advice, and it must be stressed that the wholesale provision of such "aids" by a generous community may prove the antithesis of rehabilitation.

The Candidate examined recently a middle-aged housewife who was suffering from moderately severe osteo-arthritis of both hips. She was able, with some discomfort, to bend down and pick something off the floor. She had just been provided, elsewhere, with a pair of lazy tongs which saved her this effort, so far as light objects were concerned. In her condition it was essential to preserve the range of joint movement if the degree of disability were not to increase. Provision of this "aid" was in fact, encouraging the progress of her disability, and a long-term plan was being sacrificed for a temporary, short-sighted, expedient.

All "aids" provided at the Centre are made in the workshops except the "Nelson" knife which allows a one-handed patient to cut up and eat food. Time is set aside each day, as part of the individual programme, for help, advice and practice in overcoming difficulties. It is estimated that over 80% of the hemiplegic patients who are dependent when they commence treatment become independent within two weeks. Patients with pre-frontal

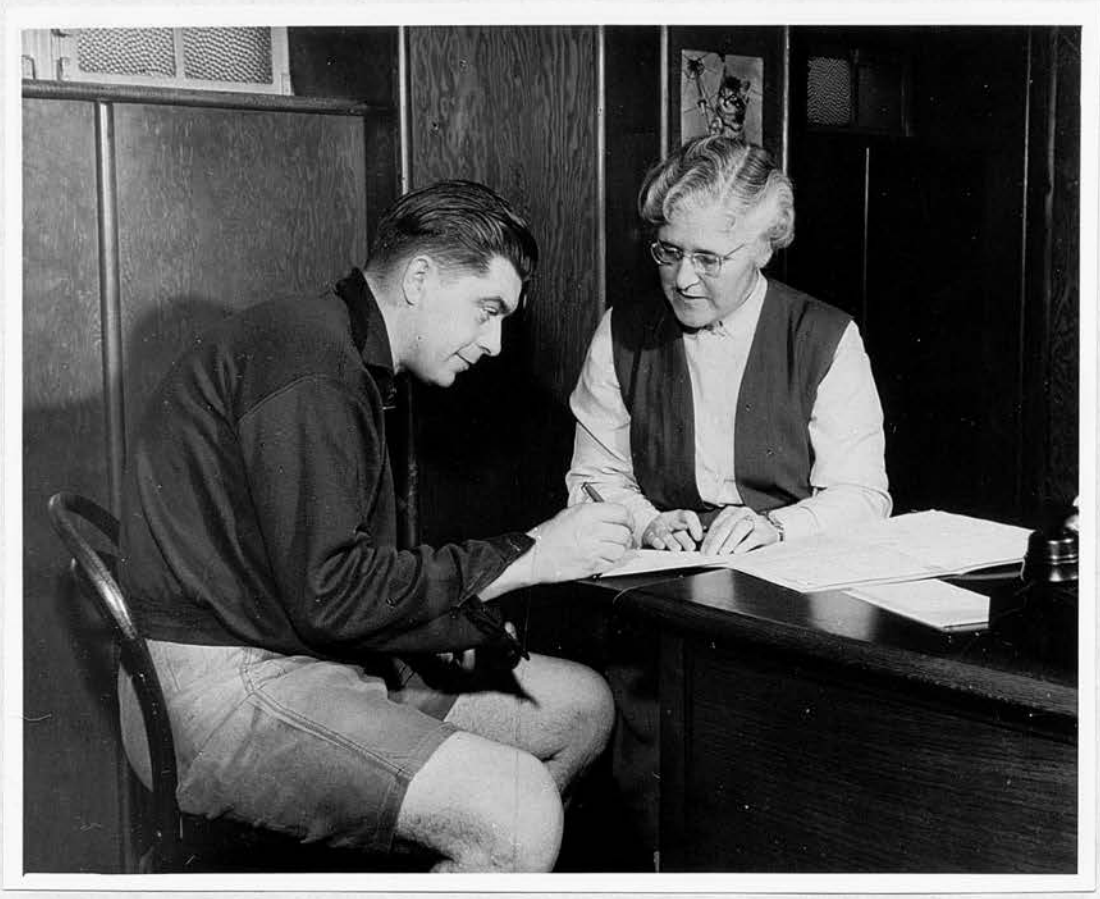


Figure 49

Social Service Officer interviewing a patient

cerebral damage are more difficult in this respect, but some improvement can be expected.

(o) SOCIAL SERVICE.

(i) Resolution of personal problems:

If a patient is to make the most rapid progress it is important that his mind be kept free of related anxieties. He cannot be expected to concentrate on his physical rehabilitation if preoccupied with such problems as subsistence, the payment of hire purchase instalments, doubts concerning the security of his employment, shortage of clothing, difficulties in completing the various forms prior to obtaining Statutory Benefits; inadequate or unsuitable housing accommodation; care of dependents or relatives whilst under treatment, and other allied problems. Unless these are dealt with by the Social Service Officers while treatment is continuing, total disability periods are inevitably prolonged. A sympathetic ear, help with a letter or official form; advice and encouragement are as essential as exercises, physiotherapy or occupational therapy. (Figure 49).

All arrangements concerning review appointments at parent hospitals, X-ray

appointments and the issuing of National Health Service Certificates of incapacity are dealt with through the Social Service Officers. The Waiting List and all documentation concerning patients, including the "follow-up" three, six and twelve months after discharge, come under their control.

(ii) Integration of the Medical Rehabilitation Centre with other bodies.

It is outside the scope of this Thesis to deal with this aspect of the work in detail in so far as the contribution of the various Ministries, Local Authorities and Voluntary Agencies is concerned. A close liaison is obviously essential and can be most easily produced and maintained by personal contact.

The following list, which is not exhaustive, gives some idea of the diversity of organisations concerned:-

Borough Health Departments - Child Welfare.

Ambulance Services.

Y.M.C.A. - Accommodation.

British Legion - Financial help, Holidays etc.

British Red Cross & St.John - Accommodation, clothing, home bound diversional therapy.

Citizens' Advice Bureau.

Church Army - accommodation and clothing.

Local Authority Welfare Departments-
London County Council
Essex County Council
Middlesex County Council

Post Office Training Centre - re training for switchboard.

Family Welfare Association - marital problems.

District Nursing Association

Housing Officers - County and Borough Councils

Irish Centre - accommodation

Ministry of Health Appliance Centre - Invacars and wheel chairs.

National Assistance - Finance and assistance with fares.

Ministry of Labour and National Service - Resettlement

Home Helps - Borough Council

Recuperative Holidays - London County Council

Meals on wheels - Borough Councils

Infantile Paralysis Association

National Spastic Society

Invalid Tricycle Association

Multiple Sclerosis Society

National Association for the Paralysed

Central Council for the Care of Cripples

London Association for the Welfare of the Physically Handicapped -
the Candidate has just been elected President.

The liaison with the Ministry of Labour and

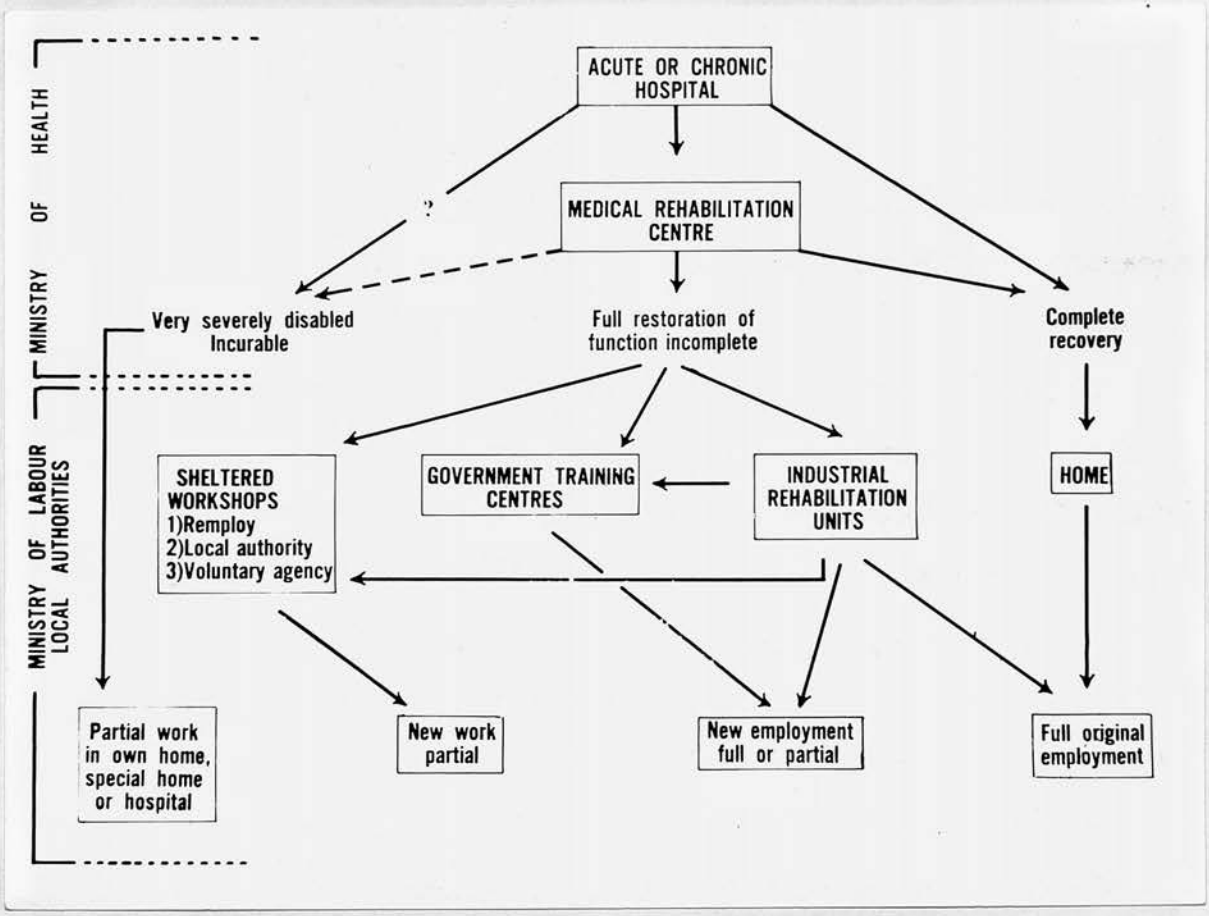

MINISTRY OF HEALTH
MINISTRY OF LABOUR
LOCAL AUTHORITIES
ACUTE OR CHRONIC HOSPITAL
MEDICAL REHABILITATION CENTRE
Very severely disabled Incurable
Full restoration of function incomplete
Complete recovery
SHELTERED WORKSHOPS
1)Remploy
2)Local authority
3)Voluntary agency
GOVERNMENT TRAINING CENTRES
INDUSTRIAL REHABILITATION UNITS
HOME
Partial work in own home, special home or hospital
New work partial
New employment full or partial
Full original employment

Figure 50

National Service and the Local Authorities in relation to resettlement is particularly important. Figure (50) shows in schematic form the place of a medical rehabilitation centre in this respect, and in it the Candidate has tried to show the various agencies involved in relation to the stage of recovery.

The basic problem is the necessity for certain patients to be transferred from the Ministry of Health to the Ministry of Labour or Local Authority when full restoration of function is incomplete. The tendency is for a human being, at this stage, to be converted into a "paper transaction" and to become lost in an administrative morass.

At the Centre this is avoided by calling in the Disablement Resettlement Officer (D.R.O.) of the Ministry of Labour whenever a patient is approaching this stage. He visits the Centre about two to three times per week. A formal resettlement clinic as recommended in the Piercy Report (11) (paragraphs 51-58), is not held. Liaison is carried out on an individual basis between the patient, doctor, social service officer, D.R.O. and any other member of the staff who has relevant information. This may appear to be more time-consuming than a resettlement clinic, but it is also less formal. A free discussion between the patient and relevant personnel savours of the

atmosphere of an interviewing committee where free discussion between interviewers and interviewed is the exception rather than the rule. The D.R.O. reports monthly upon patients who are not yet resettled, and a discussion takes place concerning other lines of approach.

The Candidate, who is an advisor to the Ministry of Labour on the medical aspects of resettlement, and a member of its local Disablement Advisory Committee, is well aware of the uneven quality of the D.R.O. service. However, training courses have now been extended and selection is more searching. The D.R.O. must feel that he is a part of the remedial team and cannot be expected to produce good results unless he is in possession of all relevant information. The vast majority of the patients, requiring resettlement, who attend the Centre have been re-employed without recourse to either Industrial Rehabilitation Units or Training Centres of the Ministry of Labour - (statistics are presented in Section Four.)

Remploy factories seldom have vacancies for patients from the Centre. At the time of writing vacancies appear to arise in these factories more or less on a "death succession" basis and many otherwise suitable candidates are rejected because it is not considered likely that they will be fit to produce an adequate level of productivity.

There is an apparently large turn-over of staff at such factories. The Piercy Report[11], para: 212, states that 700-800 workers leave each year, including 250 who go into ordinary industry. If these figures are considered in relation to the total labour force of 6,000 disabled workers, spread over 90 factories in the United Kingdom, it is apparent that approximately only eight vacancies exist in any one factory each year, and that less than two workers per year per factory gain sufficient benefit to move into open industry.

Some elderly or severely disabled patients are unfit for any form of work on discharge from the Centre. If they return home, they become a constant burden to their relatives and soon lose whatever function they may have gained. Many are admitted to chronic sick beds in hospitals or to homes under the control of the Local Authority.

An interesting experiment is being carried out by the Centre, jointly with the London County Council Welfare Department. A Social Rehabilitation Centre has been opened in Corsica Street, Islington, where such patients attend two or three times per week and transport is provided. The Candidate helped to originate, plan and develop this Centre and he examines all patients, prior to their attending, in an attempt to ensure that those who have not been at the Medical Rehabilitation Centre

Figure 51

Remedial Meeting in progress

do not require such treatment. Craft work, group activities, a woodwork shop and a kitchen unit for the assessment of disabled housewives are available. At present about twenty patients attend daily.

Already it is apparent that such a Centre saves money in that it keeps patients out of expensive hospital or hostel-type beds. It also has a wider use in helping to maintain the family as a unit by reducing the load on the relatives. It may be noted that arrangements are now complete to open a second Social Rehabilitation Centre south of the Thames.

(p) REMEDIAL MEETINGS

Twice-weekly remedial meetings are held at the Centre, and take place in the Conference Room from 1-2 p.m. each Monday and Tuesday. At these meetings the entire Remedial staff sit around the table and discuss each patient's progress. (Figure 51). Case notes and X-rays are available and a shorthand-typist records the conclusions reached concerning each patient. These are then incorporated in each patient's case folder as progress notes.

The role of the Chairman, usually the Deputy Medical Director, at such a meeting requires careful consideration. If he adopts a dictatorial attitude, comments will not easily be forthcoming from the staff and the meeting will prove of very limited value. If he fails to control the meeting,

prolonged and possibly irrelevant discussion may prevent completion of the work within the limited time allowed. It may be necessary to stimulate discussion and in this field the Candidate has found it helpful to observe the reactions of staff in meetings over the past three years.

The purpose of the meetings is to discuss each patient's progress and problems. Patients are not administratively tidy, and do not always discuss their problems with the member of staff best qualified to give advice. They usually discuss their problems with members of the staff who appear to be the most congenial and sympathetic. No harm results if such information is freely disclosed and discussed at meetings where the whole staff is present.

In the first few months such meetings proved to be difficult. The Candidate noted that each individual discipline was more anxious to discuss its contribution to the problem than to discuss the problem itself. Gradually the staff have appreciated that it is useless and unrewarding to analyse the individual contribution, and more profitable to assess the contribution of the remedial team as a whole.

Any changes in programme are settled at the meeting. Consultations are arranged with the doctor if required and arrangements made for

patients to be escorted on public transport before a decision is reached concerning the cancellation of ambulances. The value of the direct approach to the disability as compared with the indirect approach can be quickly ascertained. For example, a patient is reported to be unable to carry out flexion exercises for the spine in a Spines Group without pain - direct approach. The report from the Heavy Workshop is that the patient can pick heavy timber off the floor and carry out useful work there - indirect approach.

It would be impossible to carry out the work of the Centre without the remedial meetings, which keep all members of staff informed of every development and cognisant of the plans concerning each patient's future.

A short remedial meeting is held each Monday evening. On that day all new patients commence treatment and the doctor acquaints the staff of the history and clinical findings of each new patient, explains the rationale of the treatment prescribed and answers any questions which the staff may raise.

Patients are not medically examined on a "Clinic" basis at the Centre. Each new patient is fully examined and told that he can see the doctor again, whenever he wishes, if he reports to the Nursing Sister. As a result, the patient reporting a minor problem on a Thursday will not have to wait

for examination until the following Wednesday. Problems tackled as soon as they arise are, generally speaking, resolved more easily than when they have had time to grow.

The remedial meetings also indicate the patients who require to be examined and they are seen as soon as possible.

All patients are seen prior to discharge, and those fit for work are given a Final National Health Certificate to allow them to commence work at once. All patients are sent back to the referring authority prior to discharge and are sent for review appointments on request. A full report is sent with each patient and a copy forwarded to the patient's general practitioner. The latter receives a report on discharge so that he can be in full possession of the facts if he requires to discuss matters with the patient.

(q) STAFF MEETINGS.

On alternate weeks a short meeting is held at which the entire staff is represented. All the remedial staff attend, together with representatives of the clerical, catering and cleaning sections. Minor problems of administration are discussed and a decision reached as to how they can be resolved. Minutes of each meeting are kept and reviewed before the next meeting. Any observations from the Patients' Committee are raised at this meeting

and then actioned without delay.

From experience it is remarkable how rapidly action can be taken under this system. Placing a "minute" in a pending tray is a fatal temptation, and it is very difficult to face the staff at the next meeting if one has taken no action. It may be noted that for the first two years in the Centre these meetings were held weekly, but that meetings held on alternate weeks are now found to be sufficient.

(r) PATIENTS' GUILD.

This was constituted about two years ago. The Committee consists of patients and ex-patients, and apart from one of the Social Service Officers, who acts as Joint Honorary Treasurer, no member of the staff has any part in the organisation. From small beginnings this Guild has grown, and now has a flourishing bank account which the Committee uses to help patients and ex-patients whose needs do not fall under any of the Statutory provisions. Patients have also been helped with holidays and clothing. Any patient re-admitted to hospital receives flowers or sweets, and social functions are held regularly at the Centre in the evenings. Further, transport is organised by the Guild for elderly or severely disabled patients.

Recently an elderly ex-patient had her home in West London flooded. She informed the Guild and

two able-bodied ex-patients who lived locally were selected from the card-index and asked to go and help to clear up the damage. This they did, and in addition, the Guild also sent ten pounds to tide her over a difficult period.

SECTION THREE.

This Section is divided into two parts:-

(1) A small series of clinical case summaries illustrating the results of treatment at the Centre. It is difficult to produce an adequate summary which shows the amount of time taken on a particular problem. In one of the cases (S.C.) forty-two letters were written to various hospitals, Ministries, relatives, voluntary organisations and firms before a satisfactory solution was found.

(2) In the second part, the results of treating four different groups of patients are analysed and compared. Each group consists of all the patients in that category treated between 1st January, 1955, and 31st December, 1957.

(a) One hundred and seventy-four patients (174) who had a "compensation case", only seven of whom had their case settled whilst under treatment.

(b) One hundred and seventy-two (172) patients suffering from the sequelae of trauma with no "compensation case".
The results of a follow-up survey of both groups three months after discharge are included.

(c) An analysis of the average duration of treatment in all patients treated during the above-mentioned period who had sustained trauma to the spine or lumbo-sacral joints and had a "compensation" case - fifty-two (52) patients.

(d) An analysis of the average duration of treatment in an equivalent group of patients with no legal problems - fifty-nine (59) patients.

SERIES OF CLINICAL CASE SUMMARIES.

(a) Name - Mrs.A.L. Age 38 yrs. Occupation-Housewife

Diagnosis: Paralytic Anterior Poliomyelitis

Onset of Disability: September, 1947.

Commenced treatment: 3.1.55.
Discontinued treatment: 17.6.55.
Re-commenced treatment: 4.7.55.
Completed treatment: 8.9.55.

Medical History:

Patient had in-patient treatment in hospital followed by intermittent out-patient treatment during the eight years prior to attendance at the Centre. The following problems were present:-

(i) She could not, unless accompanied, climb a stair without the assistance of double handrails.

(ii) She could not get up a kerb without assistance.

(iii) She could not use a public lavatory without female assistance and, as a result, spent much of her time on holiday with her husband in a wheelchair with portable urinal.

(iv) She could only walk slowly with elbow crutches. Her pattern of walking was poor.

(v) She had chilblains in cold weather and could not wear fur-lined boots because of her calipers.

(vi) If she slipped and fell at home, while alone, she had to remain there until her husband returned from work.

Social History:

Patient was able to do her housework in her ground floor flat. She had no family. A sloping

ramp and handrail had been fixed by her husband at the front door. He had also fixed handrails in the toilet which she could use without help. She helped in the running of a Sunday School and made her own clothes with an electrically-driven sewing machine. The total family income was £8 per week. Her husband was interviewed on several occasions and was a most co-operative man who had even carried out certain modifications at his mother-in-law's house.

Immediate aims of treatment:

(i) To provide the patient with efficient calipers of the "insole" type, which would allow her to utilise her active dorsiflexion of the ankles; would weigh less and allow her to wear the footwear she preferred.

(ii) To improve her function by helping her to live to the maximum of what she had left by training normal muscles to peak efficiency and developing skills in compensatory movements.

(iii) To attempt to resolve the other problems already detailed.

Clinical condition on commencing treatment:

Patient had an almost complete paraplegia involving both lower limbs, the only exception being the presence of weak dorsiflexion of both ankles, left better than right. Spinal and abdominal musculature was poor. Apart from marked weakness of the left deltoid and left supraspinatus muscles the upper limbs were normal.

Because it was essential that she continue to

run her home, the patient was treated on a half-day basis. On commencing treatment her programme was as follows:-

9.30 - 10 a.m. "Warming-up"

10.00 - 10.40 a.m. Resisted active exercises for both ankles and feet.

10.40 - 11.00 a.m. Tea.

11.00 - 11.40 a.m. Spines Group.

11.40 - 12.20 a.m. Activities of Daily Living.

Ambulance transport was provided. New calipers were ordered and the patient assessed on stair climbing. She required thirty minutes to ascend a staircase of 26 steps and thirty-five minutes to descend the same flight of stairs. The staircase had double handrails.

After six weeks, the programme was altered between 11.00 - 11.40 a.m. from the "Spines Group" to the "Early Re-education in Walking Group" because of the improvement in her spinal and abdominal musculature.

When the new calipers had been fitted satisfactorily she was able to deal with stairs much more easily and only required one handrail. She was taken to the nearest public lavatory by two members of staff and did not need assistance by the end of May, 1955. A member of staff visited her home to see if any further modifications would make life easier, and as a result of this visit, one additional handrail was fixed by the Welfare

Department of the London County Council.

On the 17th June she was discharged to go on holiday with her husband. At that time she could ascend the same flight of stairs at the Centre in 4 minutes 48 seconds and descend in two minutes. The only remaining problem was that of getting up if she fell on the floor.

The patient re-commenced treatment on 4th July, 1955. She had had an enjoyable holiday and made several trips by bus with her husband. Her new programme was:-

9.30 - 10.00 a.m.	"Warming up"
10.00 - 10.40 a.m.	Early Leg Group
11.00 - 11.40 a.m.	Spines Group
11.40 - 12.20 a.m.	Individual exercises (E.M.R.)

She was placed in a Spines Group again because it was realised that she would never get off the floor unaided without more powerful spinal and abdominal musculature. She made good progress and succeeded in overcoming this last hurdle on the way to complete independence. At the same time her speed on the stairs continued to improve, and she could walk with sticks instead of elbow crutches and short distances without sticks. She was finally discharged on 8th September, 1955.

Progress may thus be summarized:-

	On Admission	On Final Discharge
Ability to climb stairs with one handrail	absent	present
Ability to get up a kerb unaided	absent	present
Ability to use public lavatory unaided	absent	present
Time taken to ascend 26 steps	30 minutes	2 mn.40 s.
Time taken to descend 26 steps	35 minutes	1 mn.20 s.
Ability to get up from floor	absent	present
Means of support	Elbow crutches	sticks or none

It should be noted that no recovery took place in paralysed muscles during treatment. Improvement was the result of training and functional adaptation. The patient was seen again on 22nd October, 1957, and was running her household without a "Home Help" for the first time in 10 years.

This result is to be expected with a 'stable' disability in an individual with high morale.

(b) Name: Mr.S.C. Age: 41 yrs. Occupation: nil for previous 7 years - Furrier.

Diagnosis: Post-encephalitic Parkinsonism

Onset of Disability: Diagnosed 1935

Commenced treatment: 12th March, 1956

Completed treatment: 21st November, 1956.

Medical History:

Although the diagnosis was not established until 1935 the patient had noticed clumsiness of his left hand and slight difficulty with balance, gradually increasing in severity, since he had a fall on board a ship in 1928. Despite his disability he continued to work as a Furrier in his Father's business until 1948. At that time he became so clumsy in his movements that he could not cut out or stitch the delicate skins without damaging them. At the same time the family business started to decline and the father was unable to continue to employ him.

When he commenced treatment he walked in an inco-ordinated manner, using a walking stick, with an internal rotation deformity of the left hip and an inversion deformity of the left ankle. His speech was slurred and his lower jaw fell open when he sat or walked, and he had to use his hand to close his mouth. The co-ordination of the right upper limb was noticeably much better than the left. He could manage stairs unaided and could use public transport for short distances. He could also feed himself but was messy in the process.

Social History:

Patient was unmarried and lived with his parents in a satisfactory house. He had a married sister and brother who did not live at home. The relationship with the parents was very unsatisfactory. He considered that his father should employ him and was depressed, bored and discouraged by his inability to find suitable work. As a result his walking had deteriorated and inco-ordination had increased. His total income was £2.6.0d. per week.

The prospects of resettling this patient appeared remote but, in view of his basically adequate personality, and his insistence that he could work, it was considered justifiable to make an attempt.

His initial programme was as follows:-

9.30 - 10.00 a.m.	Warming up.
10.00 - 10.40 a.m.	Occupational therapy (assessment).
11.00 - 11.40 a.m.	Individual re-education in walking.
11.40 - 12.20 a.m.	Co-ordination Group.
2.00 - 2.30 p.m.	Warming up.
2.30 - 3.10 p.m.	Occupational therapy (assessment).
3.10 - 3.50 p.m.	Co-ordination Group
3.50 - 4.20 p.m.	Relaxation Group

His co-ordination improved and, although he still walked in a most bizarre manner, he seldom

fell. An attempt was made to correct his deformity by means of a surgical appliance but this failed, presumably because the faulty habit was too ingrained to be eradicated at such a late stage.

Patient's father was interviewed at the Centre but proved unwilling to assist in his son's re-settlement. The Disablement Resettlement Officer of the Ministry of Labour interviewed the patient at the Centre. He also had the usual discussion with the doctor (J.G.S.), the Social Service Officer concerned with resettlement, and the Occupational Therapist.

It was noted that the patient had great difficulty in negotiating doorways. Even when he could see through the open door and knew that no one was near, he stopped in the doorway and was unable to proceed. It was observed that, if someone spoke to him, or if he carried out some action unconnected with negotiating the doorway, he could then proceed. A series of simple actions such as blowing his nose, feeling for his loose change, and scratching his ear, were suggested. He was then able to walk through a doorway without difficulty so long as he remembered to vary his facilitative technique. If he adhered to one of them it became a conditioned reflex, associated with negotiating doorways, and he gained no benefit from it.

His daily programme was changed, after discussion at a Remedial Meeting:-

9.30 - 10.00 a.m.	Warming up.
10.00 - 10.40 a.m.	Co-ordination Group.
11.00 - 11.40 a.m.) 11.40 - 12.30 a.m.)	Occupational Therapy.
2.00 - 2.30 p.m.	Warming up.
2.30 - 3.10 p.m.	Occupational Therapy.
3.10 - 3.50 p.m.	Co-ordination Group.
3.50 - 4.20 p.m.	Occupational Therapy.

The changes were necessary, firstly to increase the time available for assessment and work conditioning, and secondly because the time of the morning Co-ordination Group had been altered to produce a better balance in the programme for all patients requiring such a Group.

The results of the assessment showed that, despite all appearances to the contrary, he was perfectly safe in handling sharp carpentry tools and could work at a low level of productivity. He was anxious to learn, conscientious and punctual and had no memory defect.

About three weeks later, the Disablement Resettlement Officer heard of a possible job as an injection moulder in a plastics factory. The Occupational Therapist visited the factory and felt that the work was within his capabilities. Knowledge of the patient's personality had revealed

that he always became excited in a new situation and, as a result, the functional level of activity diminished. Consequently, a "mock-up" of the work process was constructed in the Occupational Therapy Department and the patient practised for about two weeks. At the end of this time his speed in completing the process was almost equivalent to that of an able-bodied worker. He was then taken to the factory and accepted on a week's trial. He passed this test working a five-day week from 8 a.m. until 6 p.m. each day. On the 21st November, 1956, he was given a "Final Certificate" and commenced work the following day. "Follow-up" in June, 1957 revealed that he was still working with the same employer.

This satisfactory result was entirely due to the team work of the staff of the Centre, the Hospital staff, General Practitioner, the Disablement Resettlement Officer, the employer and the patient. In all, 42 letters were written on his behalf, and one more disabled person was happily back at work paying Income Tax instead of being a burden on the State.

(c) Name: Mr.H.B. Age: 36 yrs. Occupation: none for 12 months previously - window cleaner.

Diagnosis: Multiple Sclerosis

Onset of Disability: 1953

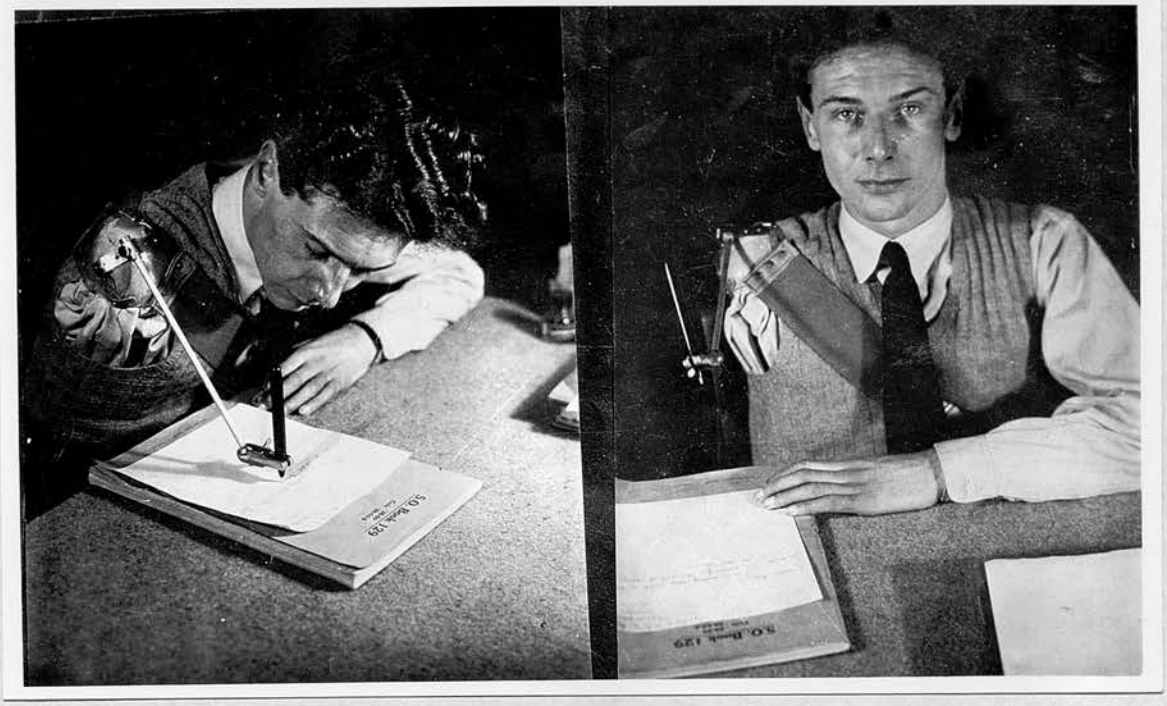


Figure 51a

Flight Sergeant P.S., age 23. Patient cycled into aircraft propeller on perimeter track of airfield on a dark wet night. He sustained a traumatic avulsion of right upper limb through gleno-humeral joint and a practically complete brachial plexus lesion of left upper limb, together with severe facial injuries. This device allowed him to write home for the first time for almost two years.

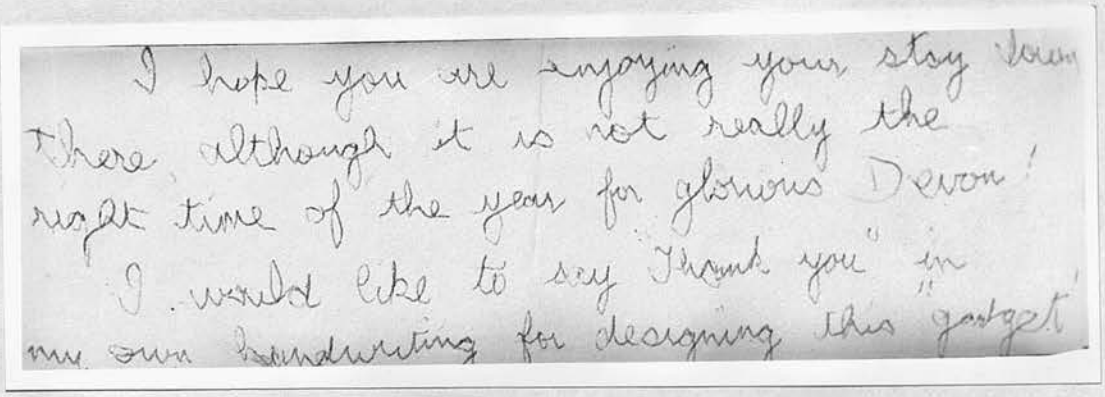


Figure 51b

His writing using the appliance. There was a strong similarity between his pre and post-accident writing, confirming the theory that letters are formed by the muscles controlling the shoulder girdle and not by the wrist.

Commenced treatment: 12th March, 1956.

Transferred to Egham I.R.U: 29th April, 1957.

Medical History:

Patient was cleaning windows in June, 1953 when he missed his step and fell. He then became aware that his co-ordination was impaired and he also noted excessive tiredness, loss of power and hypoaesthesia of the left arm and leg. A few months later his speech became slurred. He was off work for four months and then resumed his employment. In August, 1954, he had a relapse and on this occasion his right leg became weak and he had difficulty in walking. He lost the power of speech for two weeks. He was unable to work for six months and then found employment as a wood machinist. He had to give up in March, 1955, and had not worked since that time.

Clinical examination confirmed the diagnosis and revealed a severe trunk ataxia which made it difficult for him to walk without sticks. He became exhausted after walking more than approximately 20 yards. His eyesight was satisfactory and there was no inco-ordination of the right hand. A moderate degree of inco-ordination was present in the left hand.

Social History:

Patient was married and his wife did not work. There was a family of three children aged 13½, 11½

and 5½ years. He was a self-employed window cleaner and then a wood machinist, as previously mentioned. His previous employment was no longer available. His total weekly income was £4.3.6d. The family lived in a satisfactory flat but were involved in constant minor squabbles with the family in the flat above. This situation was improved after the Candidate had written to the Landlords asking them to mediate.

In an unstable disability such as this it is very difficult to make a firm plan. The disease runs a course of remissions and relapses and the time intervals involved vary from case to case, and even then are inconstant. The problem is further complicated by the fact that in a remission period the patient has "good days" and "bad days". On the latter his level of functional activity may be 50% of the former.

His programme at the Centre was similar to that of the previous patient. The aims of treatment were to overcome the degree of physical disability due to disuse, to improve his morale, diminish his social isolation and assess his capabilities. He was not under treatment continuously, having rest periods at home or at a convalescent home when his condition made this necessary. Arrangements were made for him to be supplied with an Invacar and plans for a garage

had to be prepared and passed by the local Borough Council. He developed pyorrhoea and phased extraction of the teeth was necessary to minimise the disturbance to his general condition.

He had five separate courses of treatment at the Centre between March, 1956 and April, 1957. On the last occasion he recommenced treatment prior to being transferred to a residential Industrial Rehabilitation Unit at Egham, Surrey. This was to ensure that he went there in the peak of condition, both medically and psychologically.

On the 8th July, 1957, he obtained a job on his own initiative, with the Scroll Pen Company and, on 30th August, transferred to another job at Waltham Cross.

On the 16th October, 1957, he attended an evening Social at the Centre, organised by the Patients' Guild and stated that he was very happy in his new job.

It is impossible to forecast how long he will be able to remain in employment. Frequently an intercurrent infection is sufficient to prevent the return of the patient to work. All patients suffering from such unstable disabilities, are instructed to acquaint the Centre of such an occurrence and arrangements are then made for a "refresher course" as soon as they are afebrile.

(d) Name: Mr.J.O'B. Age: 51 yrs. Occupation: ex-policeman

Diagnosis: Multiple Sclerosis

Onset of disability: diagnosed 1954

Commenced treatment: 4th February, 1957.

Discontinued treatment: 26th July, 1957.

Medical History:

Patient gave a typical history of remissions and relapses with a resultant poor work record. He had not worked since March, 1955. He was independent so far as dressing, washing and shaving were concerned. He walked with the aid of two sticks and had been unable to use public transport for the previous seven months.

The inco-ordination was confined mainly to his lower limbs and spine. He had weakness and spasticity of the flexor and extensor muscles, knee jerks absent, ankle jerks present, bilateral extensor responses and no sensory changes.

Social History:

Patient was a widower with five of a family aged 26, 24, 22, 20 and 17 years. The youngest boy (17 years) stayed at home and one of the daughters called in regularly to help with the housework. He lived in a furnished bed-sitting room and paid thirty shillings per week in rent. He had no bath and there were ten steps to negotiate to reach his accommodation.

He made excellent progress at the Centre but resettlement was delayed for the following reasons. Firstly, he fell down the stairs outside his bed-sitting room on occasions; secondly, he was provided with an Invacar but had no garage and no space was available to build one. (The Ministry of Health will only allow an Invacar to be kept under a tarpaulin for a limited time.) Thirdly, had he been provided with suitable accommodation, a daughter, who had just finished her training as a nurse, would have been prepared to stay with him.

The various problems were slowly resolved during his stay at the Centre. He was discharged on 26th July, 1958, and commenced work as a telephone operator and invoice clerk three weeks later. His latest letter in reply to the "Follow-up" dated 26th February, 1958, is worthy of note.

Dear Sir,

Enclosed form duly completed. Yes, I am still employed with J.W.Baxters where I am very contented. The job is interesting and the staff most helpful. But for the treatment and teaching I received at Camden Road I am positive that I would not have succeeded in obtaining employment of any kind on my own. I have missed no day from work through illness since I commenced - one day through snow.

I shall always remember the great help I received from each and every member of the Camden Road Staff.

I remain, Yours sincerely,
J.O'B.

The Candidate is unaware of any published

work which explains the history of such a patient and he has seen many examples of this phenomenon. It is noteworthy that a patient with multiple relapses, at short intervals over a period of years, should cease to have them so frequently once he is happily resettled in a suitable occupation. There is no question of curing this condition, but the frequency and the severity of the relapses appear to be diminished by this type of approach to the problem.

(e) Mr.J.C. Age: 31 Occupation: Water Softener.

Diagnosis: Torn left medial meniscus

Duration of disability: 10 years

Commenced treatment: 15.7.57.

Completed treatment: 26.7.57.

Medical History:

Patient injured his left knee playing football about 10 years before he attended hospital again for advice. In the interval he had occasional incidents concerning his knee, with no effusion into the joint but "clicking" of the knee. During this period the knee locked seven times and an anaesthetic was required on each occasion to regain full extension. He was admitted to hospital on 31st May, 1957, and a meniscectomy was carried out on 3rd June, 1957. A bucket-handle tear of the cartilage was present.

He attended the physiotherapy department of the hospital daily and carried out exercises at home. Despite this, the orthopaedic surgeon wrote:-

"He has considerable wasting of his quadriceps which is greater than before his operation".

On commencing treatment the patient's main complaints were of instability of the knee, aching in the knee which woke him up 3-4 times each night, lack of confidence and difficulty in negotiating stairs.

His range of knee movement was 180°-80°; there was a minimal effusion into the joint and marked wasting of the vastus medialis. The circumference of the thigh six inches above the upper patella pole was $1\frac{1}{2}$" less than the normal side. There was no laxity of the cruciate or collateral ligaments and no oedema of the ankle.

Social History:

His wages were being made up by his firm; he had a daughter aged 2 years; his wife was well, and he liked his job. Housing was satisfactory.

Initial Programme - 15.7.57.

9.30 - 10.00 a.m.	"Warming up"
10.00 - 10.40 a.m.	Static Quadriceps Group
11.00 - 11.40 a.m.	Individual Quadriceps Group
11.40 - 12.20 a.m.	Occupational Therapy
2.00 - 2.30 p.m.	"Warming up"
2.30 - 3.10 p.m.	Static Quadriceps Group

3.10 - 3.50 p.m.	Advanced Group "B"
3.50 - 4.20	Intermediate Games

He made rapid progress, his effusion disappeared, and his range of left knee movement was full on 22.7.57. His programme was altered to:-

9.30 - 10.00 a.m.	"Warming up"
10.00 - 10.40 a.m.	Pre-work Group
11.00 - 11.40 a.m.	Individual Quadriceps Group
11.40 - 12.20 a.m.	Occupational Therapy (Heavy Workshop)
2.00 - 2.30 p.m.	"Warming up"
2.30 - 3.10 p.m.	Pre-work Group
3.10 - 3.50 p.m.	Occupational Therapy (Heavy Workshop)
3.50 - 4.20 p.m.	Late Games

On the 29th July, 1957, ten days after commencing treatment he was discharged and commenced his original work the following day. All his symptoms had disappeared and his confidence had returned. "Follow-up" enquiry three and six months after discharge revealed that he was still in his original work; earning the same wage; happy and content, and his general health had improved. He had had no further symptoms in his knee.

Many similar short-term cases could be described but this case suffices to show the need for a plan for each patient. It also shows how the Centre was used as a "Salvage Service" - on

this occasion, with success.

The results of treating 99 patients with meniscus injuries in the past three years suggests that if this man had been referred to the Centre on the tenth post-operative day he could have returned to his work in four instead of eight weeks. This ignores the extraordinary history whereby a man was partially disabled intermittently for over ten years before a diagnosis was established and definitive treatment carried out.

(2) CERTAIN ASPECTS OF THE PROBLEMS OF THE "COMPENSATION CASE"

It was inevitable that a number of patients with legal problems concerning compensation would be referred to the Centre. Many of these patients are disgruntled, have been under treatment for long periods of time, and have made little progress once they have achieved sufficient function to discharge their social and recreational obligations. The majority protest vigorously that they are "not interested in the money" and that their only desire is to lose their symptoms. Again, many have been rejected by the hospital concerned and the action has been rationalised by the observation that they are "unlikely to progress until the compensation case is settled". This defeatist attitude swells the

T A B L E "A"

Disposal on Discharge	Compensation	Non-Compensation
(1) Original Work	95	116
(2) Different Work	41	22
(3) Industrial Rehabilitation Unit	2	2
(4) Government Training Centre	4	1
(5) Disablement Resettlement Officer	10	7
(6) Hospital for further treatment	14	14
(7) Self-Discharge	4	9
(8) No progress	4	1
TOTAL	174	172

Figure 52

ranks of the disabled unemployables.

In order to obtain some facts to substantiate or refute the commonly held views on this subject a careful record has been kept of all such cases over the past three years.

Table "A" (Figure 52) shows a comparison of the disposal of one hundred and seventy-four patients with a compensation case compared with the disposal of one hundred and seventy-two patients suffering from the sequelae of trauma who had no such problem.

It will be noted that there are no major discrepancies between the two groups apart from the fact that double the number of patients with a compensation case returned to "different work" compared with the non-compensation group. The other differences are too small to make it rewarding to draw any conclusions.

It is considered justifiable to aggregate categories 1 - 5 inclusive in Table "A" as indicative of the number of patients in each group who were either discharged to work of some kind or would be able to work after a Course at an Industrial Rehabilitation Unit, or Government Training Centre or as soon as the D.R.O. had found a suitable vacancy. In fact, category five was created as soon as it was appreciated that certain D.R.O's displayed little enthusiasm to find employment for a

T A B L E "B"

	Compensation (174)	Non-Compensation (172)
Optimal disposal on discharge	152 (87.3%)	148 (86%)
Percentage reply rate for whole of each group	82%	81%
Optimal disposal after three months (% based on possible replies)	77.1% (28 no reply)	79.8% (30 no reply)

Figure 53

T A B L E "C"

Disposal of seven patients whose compensation case was settled whilst under treatment

	On discharge	3 month follow-up
Original Work	5	4
Different Work	1	2
Industrial Rehabilitation Unit	1	-
Not Working	-	1
TOTAL	7	7

Figure 54

patient whilst he was still attending at the Centre. It will be assumed that "optimal disposal" has been achieved in such patients.

The same groups were investigated again three months later in the course of the routine "follow-up". It is impossible to differentiate between original and different work at this stage as many patients change jobs within three months, for reasons unconnected with their disability. The results of the investigation are summarised in Table "B" (Figure 53). This table again shows no significant difference between the two groups. It cannot be assumed however, that comparable results are achieved elsewhere. The Candidate has been unable to discover any previous similar investigation.

Only seven of the patients in the compensation group had their case settled before discharge from the Centre. Their disposal is summarised in Table "C" (Figure 54). The number is too small to draw any firm conclusions but the high total returning to original work is more equivalent to the figures in Table "A" referring to non-compensation cases than to those referring to compensation cases in the same table.

It is common knowledge that patients with

T A B L E "D"

Duration of treatment, in weeks, of compensation and non-compensation patients with trauma involving spine

	Number of cases	Prior to Centre	At Centre	TOTAL (weeks)
COMPENSATION	52	30.3	8	38.3
NON-COMPENSATION	59	10.5	3.1	13.6

Figure 55

a compensation problem take longer to recover than those with no such problem. Table "D" summarises the results of determining and analysing total duration of treatment in all patients treated at the Centre between 1st January, 1955, and 31st December, 1957, who had sustained trauma to the spine or lumbo-sacral joints. One hundred and eleven patients came into this category. Fifty-two had a compensation case; fifty-nine had not. (Figure 55).

In contrast to the previous tables these figures are of considerable significance. The following facts are at once apparent:-

(i) <u>The time under treatment prior to attending the Centre is trebled in compensation cases</u>.

Many factors may be involved but it appears likely that this is symptomatic of the general attitude towards compensation cases - an attitude of "laissez faire", a belief that the problem cannot be resolved until the case is settled. In such cases the Centre tends to be used as a "salvage service" or "dernier resort", rather than as part of a planned programme for the individual patient.

(ii) <u>The time under treatment at the Centre is more than doubled compared with non-compensation cases.</u>

Tables "A" and "B" show that the final result achieved on discharge and confirmed by "follow-up" is almost identical. It seems reasonable to attribute the increased time under treatment, at least in part, to the delay in getting to grips with the problem.

(iii) <u>The total duration of treatment is almost three times as long in compensation cases compared with non-compensation cases.</u>

This is clearly a matter of national importance. The cost to the country of keeping such people off work could be measured in terms of cost of allowances for the patient and his dependents, loss of productivity and loss of income-tax in many cases. Such items are obviously almost trebled in compensation cases. The hidden cost, in terms of the gradual destruction of a man's willingness and ability to work to the point where he may well become unemployable, the increased risks of breakdown of the family unit, the misery, frustration and isolation of the patient, cannot be

measured only in terms of money but are no less important.

The patient with a compensation problem is suffering basically, from an anxiety neurosis. Any step which diminishes his anxiety evidently improves the prospect of recovery. It seems unreasonable and contrary to basic human nature to expect a man to lose symptoms, which workmates, relatives and friends have assured him are worth large sums of money. The Candidate has met few conscious malingerers. In the series above they are probably represented in Table "A" by the four patients who took their own discharge together with the four patients who were discharged because they failed to make progress. They represent only 4.6% of the whole series.

This problem is not a simple one. There is a tremendous difference between the attitude of a man with a compensation case in which liability has been established and one in whose case it has not. The former knows that he is going to get some money, the latter does not. There appear to be strong grounds for altering legislation so that liability must be

established early and not left, as at present, to be settled concurrently with the question of damages, often two, three or more years after the accident. The passage of time must surely make the facts concerning liability more difficult to determine.

There is also a difference in the attitude of the patient dependent upon the type of disability. The patient with an amputation seldom has his recovery impeded by the compensation case. However long the interval between accident and settlement he is still obviously disabled and has his disfigurement and prosthesis to prove it. A patient with an injury to his back complaining of backache, pain on stooping and limited spinal flexion must retain his symptoms and loss of function to establish his case.

At the Centre, every effort is made to break the vicious circle which exists. The legal advisors state that the action cannot proceed until medical treatment has ceased and the residual permanent disability assessed. Subconsciously the patient retains his symptoms until

legal proceedings are completed.

The Candidate recalls one patient whose history proves that the symptoms and signs are not always consciously produced.

A young man commenced treatment twenty weeks after a fracture of the left tibia and fibula above the ankle. His complaints were of stiffness and pain in the ankle, and extreme coldness of the left foot. Examination showed the typical clinical picture of an early Sudek's Atrophy. Anterior and posterior tibial pulses were absent, the skin of the foot was cold, shiny and atrophic, with excessive perspiration dripping from the toes and the sole of the foot.

Two weeks later, his case for compensation was settled to his satisfaction out of Court. Within forty-eight hours, he had a normal circulation in his left foot and only slight stiffness of the left ankle.

It is difficult to explain on physiological or psychological grounds either the production of a disturbance of the sympathetic nervous system confined to the affected part or its rapid

disappearance.

The return to work of one hundred and twenty-nine patients with a compensation claim, before their case was settled, was achieved as a result of team work. The attitude of the patient may have been altered by the environment of the Centre and his unwarranted suspicions allayed by a firm and sympathetic approach. Lawyers were approached either to expedite settlement or to obtain an assurance that return to suitable work would not prejudice the case. At all times an impartial attitude was attempted and the patient became conditioned to accept the advice which was offered in the course of full and frank discussion.

This method of approach could not obviously be adopted in the busy out-patient department of a hospital. The Candidate submits that the evidence produced in this Section leaves no grounds for complacency and indicates the size of the problem if it is to be considered on a National basis.

MEDICAL REHABILITATION CENTRE

152, Camden Road, London, N.W.1

Analysis of total discharges during 1955, 1956, and 1957.

Male patients	935	(70.6%)
Female patients	390	(29.4%)
	1,325	

Figure 56

MEDICAL REHABILITATION CENTRE

152, Camden Road, London, N.W.1

Analysis of 78 patients under treatment at one time:-

Male	56	
Female	22	
	78	
Under 60 years of age	65	
60 and over	13	
	78	
Short term (under 6 weeks)	51	(65.38%)
Long term (over 6 weeks)	27	(34.62%)
	78	

Figure 57

SECTION FOUR.

This Section consists of an analysis of statistics relating to the work of the Centre from 1st January, 1955, to 31st December, 1957, inclusive. As the Centre is unique and because it is believed that this type of organisation suggests a "blue-print" for the future in the development of Rehabilitation Services, an attempt has been made, since its inception, to record such information as might prove useful to others working in this field.

The greater part of this analysis is based on the total number of patients discharged during the above-mentioned period - one thousand three hundred and twenty-five in all. Figure 56 shows the ratio of male to female patients and also gives some indication of probable needs in relation to changing accommodation and clothing.

Originally, the Centre was equipped on the ratio of 60% male to 40% female patients. As the number of patients under treatment increased, the ratio was adjusted to coincide with the experience gained. A future Centre should be equipped on the ratio of 70% male to 30% female patients.

Figure 57 shows an analysis of seventy-eight patients under treatment at one time. The ratio of male to female patients is almost identical with that over the whole series of discharges. The ratio of patients under sixty years of age to those

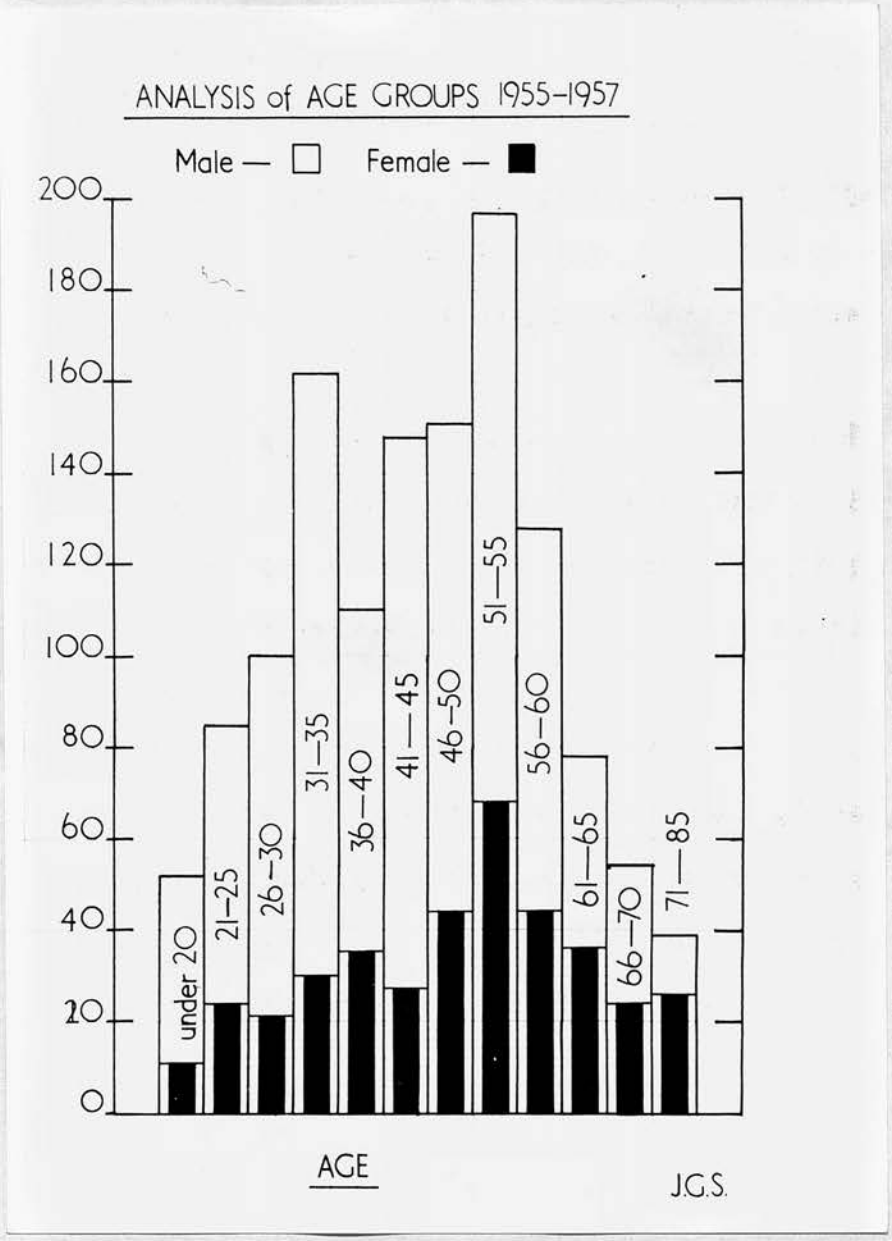

ANALYSIS of AGE GROUPS 1955–1957
Male — □ Female — ■
200
180
160
140
120
100
80
60
40
20
0
under 20
21–25
26–30
31–35
36–40
41—45
46–50
51—55
56–60
61—65
66—70
71—85
AGE
J.G.S.

Figure 58

over 60 years has remained fairly constant throughout the period under review. The importance of preserving a balance between short-term and long-term patients has already been stressed (Section One (d)) (page 32) and is slightly biassed, in this example, in favour of short-term cases. A normal ratio would be 60% short-term to 40% long-term.

Figure 58 provides an analysis of the age groups treated at the Centre over this period. It is interesting to note the increase in the number of female patients in relation to the number of male patients in the older age groups. This is to be expected as few married women with families can afford the time to spend at the Centre, however desirable this may be on purely medical grounds. This figure also confirms that it has been possible to treat patients of vastly dissimilar age within the Centre.

The historical survey in Section One of this Thesis shows that many of the developments in medical rehabilitation were the result of pioneer work by orthopaedic surgeons. This has led to a widespread conviction that medical rehabilitation today deals mainly with orthopaedic or traumatic conditions. This is not the case, and Figure 59 shows the result of dividing the total number of discharges into three major categories. It should

MEDICAL REHABILITATION CENTRE

152, Camden Road, London, N.W.1

Analysis of total discharges during 1955, 1956, and 1957.

Medical Cases	624
Orthopaedic Cases	548
Surgical Cases	153
TOTAL	1,325

Figure 59

be noted that medical cases represent almost exactly 47% of the total. Many of the patients with medical conditions were much more difficult to treat than their orthopaedic or surgical counterparts.

Figure 60 shows the result of an analysis of the patients discharged in the three year period which attempts to show the major groups of disabilities concerned. This has been carried out for both male and female patients, and it may be noted that a relatively large number of patients were suffering from neurological conditions. This is possibly due to the success achieved with a number of such patients which resulted in more being referred to the Centre.

Some of the conditions treated in this group were as follows:-

Tumours of brain and spinal cord 19
(post operative)

Multiple Sclerosis..... 68

Paralysis Agitans..... 25

Cerebral thrombosis or embolism.....153

Sub-arachnoid haemorrhage..... 3

Forty-seven patients with psychoneurotic or personality disorders were discharged during the period under review. This represents 3.54% of the total discharges. In Section Two (e)(iii), (page 51) a figure of 15% was mentioned as

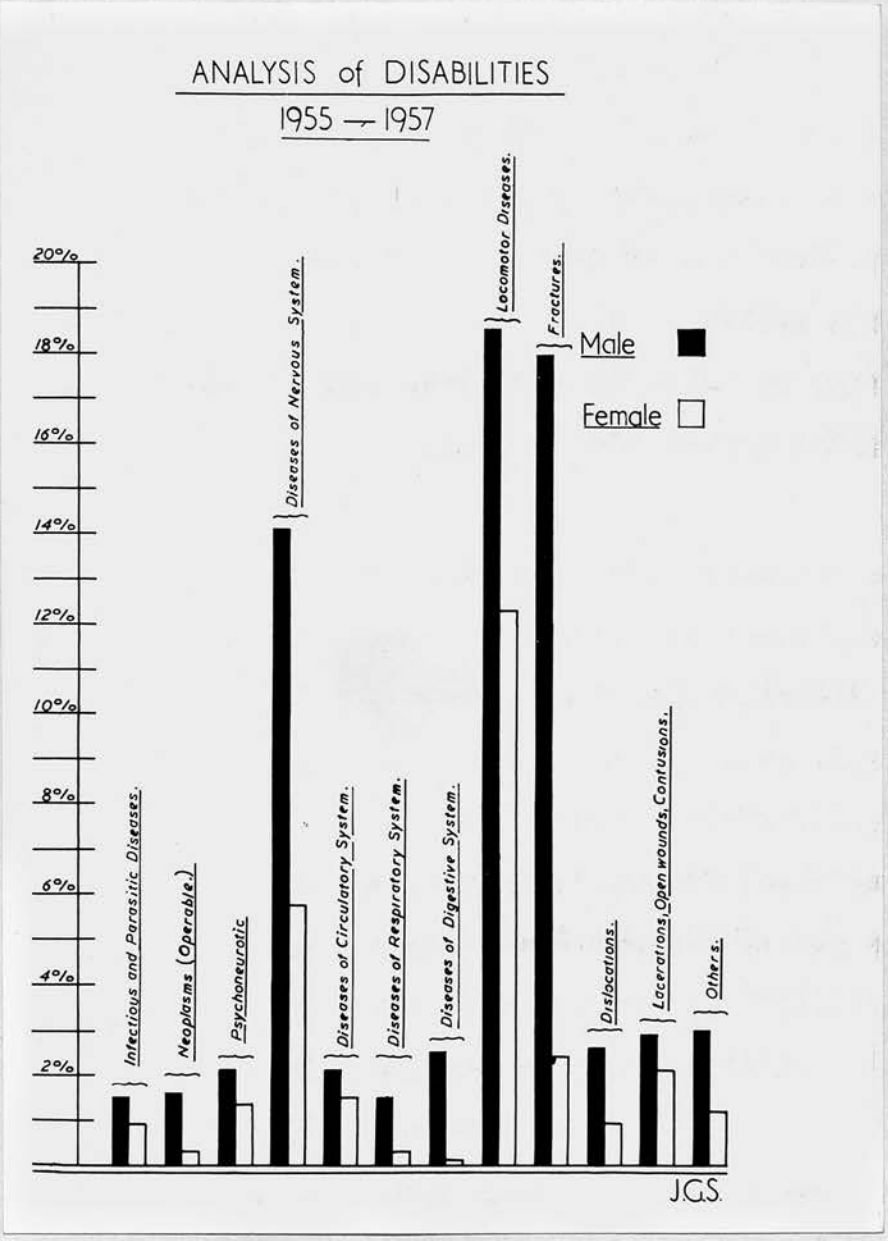

ANALYSIS of DISABILITIES
1955 — 1957
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
Infectious and Parasitic Diseases.
Neoplasms (Operable.)
Psychoneurotic
Diseases of Nervous System.
Diseases of Circulatory System.
Diseases of Respiratory System.
Diseases of Digestive System.
Locomotor Diseases.
Fractures.
Dislocations.
Lacerations, Open wounds, Contusions.
Others.
Male
Female
J.G.S.

Figure 60

representing the maximum number of such patients who should be under treatment at one time. Even when due allowance is made for the patients who had a "functional overlay" as a secondary diagnosis, it is apparent that this estimate of 15% was not exceeded in this series.

It may prove of value to enumerate some of the conditions treated during this period.

Fractures:

Multiple	14
Skull	22
Fracture dislocations of vertebrae	39
Pelvis	10
Humerus	6
Radius and Ulna	23
Involving one or both hands	15
Femur	28
Patella	16
Tibia and fibula	47
Ankles and feet	38
Amputation	49
Internal derangements of knee joint	99
Prolapsed intervertebral disc	63
Osteo-arthritis	113
Rheumatoid Arthritis	63
Chronic bronchitis and emphysema	20
Paralytic Anterior Poliomyelitis	26

Figures 61 and 62 have been compiled to show

MEDICAL REHABILITATION CENTRE

152, Camden Road, London, N.W.1

(1) Number of patients under treatment on first day of each month:-

	1955	1956	1957		1955	1956	1957
Jan.	54	77	77	Jly.	51	74	78
Feb.	61	76	79	Aug.	67	70	79
Mch.	63	76	75	Sep.	70	71	84
Apl.	49	78	78	Oct.	80	56 *	76
May	54	78	79	Nov.	76	78	77
Jne.	68	77	75	Dec.	78	78	73

* October, 1956 - numbers decreased due to major structural alterations in kitchen and gymnasia.

	1955	1956	1957
Average for 12 months	64.25	74	77.5

(2) Total admissions 1,363

(3) Total discharges 1,325

(4) Total number of people seen by the doctor who were not under treatment - i.e. 374

(a) ex-patients reporting for review;

(b) relatives called for interview to discuss problems;

(c) patients referred for review concerning their suitability for treatment, and the timing of such treatment.

(Analysis of 1957 figures showed (a) to be 45%
(b) " " 13.4%
and (c) " " 41.6% of total.)

Figure 61

certain aspects of the work of the Centre. Figure 61(1) shows the increasing number of patients under treatment during the period under review. The "official" capacity of the Centre is 75 patients per day, and it will be appreciated that the average of 77.5 reached in 1957 could not have been achieved without having over eighty patients under treatment on many occasions.

It may be noted that, once a food hoist has been installed, it should prove possible to treat one hundred patients per day with the same remedial staff. This should appreciably diminish the cost per patient per day.

Figure 61(4) shows the total number of patients seen by the doctor who were not under treatment. When the Centre opened it was not appreciated that this number would increase to such a degree and no arrangements were made to record the reason for such attendances. In 1957 the fault was remedied and the results of this analysis are given. Included in category 4(C), in this figure, are all patients examined prior to commencing treatment at the Social Rehabilitation Centre at Corsica Street, Islington, London, described in Section Two (o).

Figure 62(5) shows the monthly attendances, including justifiable absenteeism, as a percentage. Patients are considered to be absent with justification if they are attending their parent

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(5) Monthly attendances, including justifiable absenteeism (maximum 100%

	1955 %	1956 %	1957 %		1955 %	1956 %	1957 %
Jan.	90.4	97.0	97.0	Jly.	95.9	94.4	97.5
Feb.	97.3	96.7	98.0	Aug.	97.1	98.2	97.1
Mch.	96.9	98.1	98.9	Sep.	97.6	99.2	96.0
Apl.	96.0	98.2	97.4	Oct.	97.7	97.7	97.5
May	99.1	97.9	96.8	Nov.	98.1	97.4	96.2
Jne.	98.4	98.3	97.0	Dec.	95.2	95.5	93.9

	1955	1956	1957
Average for 12 months	96.6	97.4	96.9
(6) Average number of whole day attendances	30.9	37.7	35.3
(7) Average number of half day attendances	30.3	31.4	18.7
(8) Number of patients accepted for treatment and on waiting-list at 31st December	25	54	70

(9) Units of work performed:-

Group exercises	93,817	103,232	105,321
Physiotherapy	28,278	47,838	44,980
Occupational Therapy		Not recorded	

Figure 62

hospital for review, fulfilling such an appointment as for X-ray, dental or ophthalmic treatment or confined to bed at home with some condition which precludes their attendance and has been confirmed by their general practitioner.

The average monthly attendance over the three years is 96.96%. When it is appreciated that no financial incentive is available to encourage regular attendance and that no sanctions, apart from discharge, can be applied if a patient fails to attend, this figure may be regarded as encouraging.

Figure 62 (6 and 7) records the average number of whole and half-day attendances at the Centre in each of the past three years. Patients attend on a half-day basis either because they are too disabled for a whole day programme or because they have returned to work on a part-time basis prior to final discharge. Since patients are retained at the Centre until they cease to make further progress, these figures are possibly lower than might have been anticipated.

Figure 62 (8) shows the increasing demand for such facilities as the Centre has to offer and suggests that expansion is necessary.

Figure 62 (9) records the units of work performed in the remedial groups and in the physiotherapy department in each of the three

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Analysis of the disposal of the 1,325 patients who were discharged during the three years, 1955, 1956, and 1957

Return to original work	613 - 47.2%	
Return to different work	209 - 15.5%	81%
Optimum function	250 - 18.3%	
Industrial Rehabilitation Unit	7 - .5%	
Training	21 - 1.5%	
Admitted to hospital, or for treatment at home	189 - 14.1%	
Self discharge	29 - 2.2%	
No progress	7 - .5%	
	1,325	

Figure 63

years under review. These statistics are required by the Ministry of Health but are perhaps of doubtful significance. During the first few months each remedial period lasted thirty minutes (a unit consists of thirty minutes or less of remedial exercises). Each period was then increased to forty minutes and, as a result, the units of work performed in relation to group exercises were doubled. No one would suggest however that the patients' treatment, in this respect, had been doubled.

Analysis of the disposal of 1,325 patients who were discharged between January 1st, 1955, and December 31st, 1957. (Figure 63).

There are several points concerning this figure which require explanation or comment.

(a) Patients are recorded as having obtained "optimum function" when they:-

(i) are over working age or too severely disabled ever to be employable

and

(ii) were dependent when they commenced treatment and are independent on discharge.

(b) The small number of patients sent to either an Industrial Rehabilitation Unit or Training Centre under the control of the Ministry of Labour is statistical evidence to reinforce the view that if medical rehabilitation is carried out in a comprehensive manner the

need for such facilities is small.

These figures also confirm the opinion expressed in a survey carried out, in 1945, of 2,210 patients in nine hospitals in Liverpool. The need for training for new work through the Ministry of Labour and National Service was estimated to be between one and two per cent for medical, surgical and orthopaedic cases. (17)

(c) The number of patients admitted to hospital includes patients referred by General Practitioners who were found, on investigation, to be in need of either hospital care or more extensive investigation in hospital. It also includes patients who had a relapse and had to have rest at home for a period before re-commencing treatment at the Centre.

The patients who discharged themselves were not necessarily all unco-operative. A few found work which the staff did not consider suitable. The follow-up of these patients shows that, in several cases the staff were wrong. Patients who made no progress, despite all efforts and whose treatment had to be discontinued accounted for 0.5% of the total number of patients discharged.

In figure 64 the analysis of the disposal of

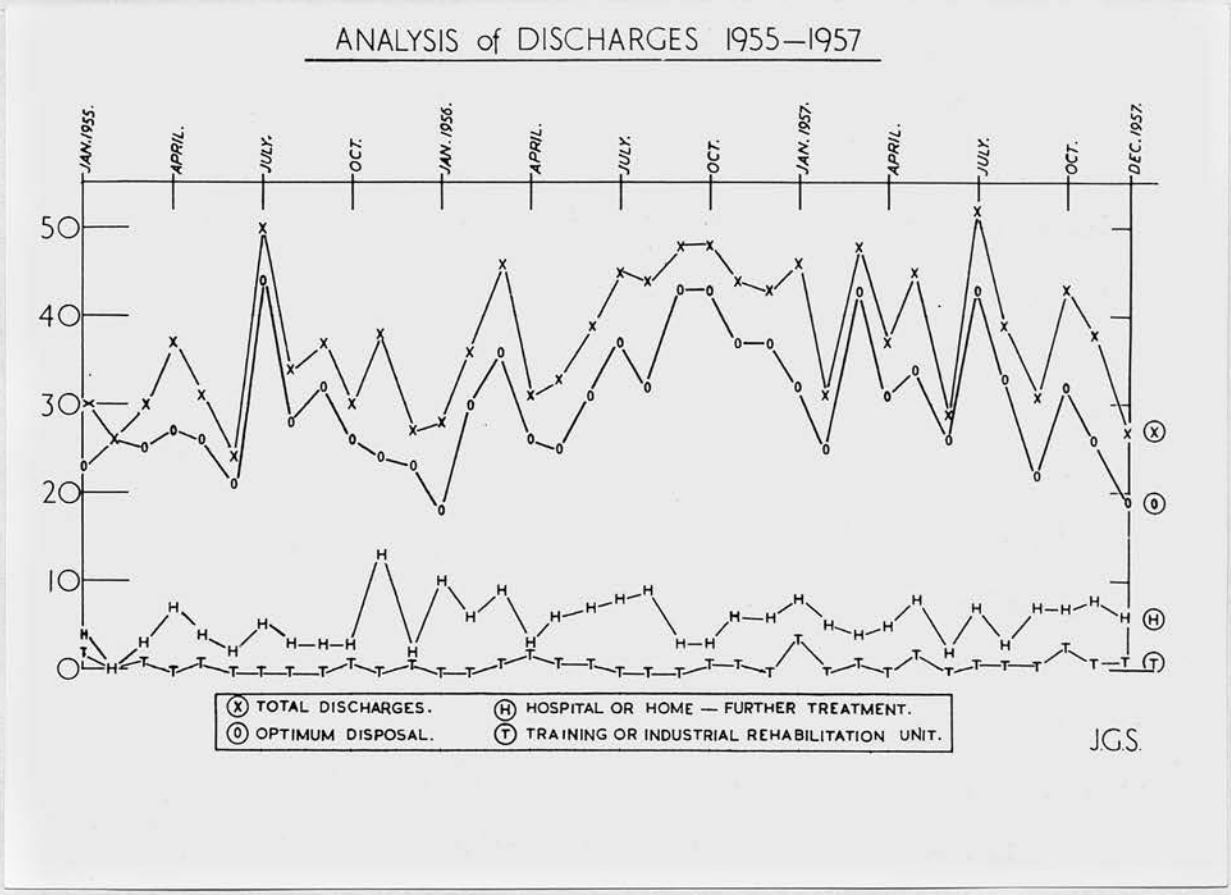

ANALYSIS of DISCHARGES 1955—1957
JAN. 1955.
APRIL.
JULY.
OCT.
JAN. 1956.
APRIL.
JULY.
OCT.
JAN. 1957.
APRIL.
JULY.
OCT.
DEC. 1957.
50
40
30
20
10
0
X TOTAL DISCHARGES.
0 OPTIMUM DISPOSAL.
H HOSPITAL OR HOME — FURTHER TREATMENT.
T TRAINING OR INDUSTRIAL REHABILITATION UNIT.
J.G.S.

Figure 64

the 1,325 discharged during the three year period is presented in the form of a graph. This shows that the percentage of the total discharges who were estimated to have made the maximum recovery possible remained fairly constant throughout the period. It also indicates the very small number of patients referred to either an Industrial Rehabilitation Unit or to a Government Training Centre.

FOLLOW-UP ENQUIRY.

This is carried out on a postal basis. A form is sent to each patient, together with an explanatory letter and a stamped addressed envelope, three, six and twelve months after discharge. The work involved in sending out the form is carried out by patients in the clerical section of the light Occupational Therapy Department. The replies, naturally, are confidential and are recorded by one of the Social Service Officers. Any reply which reveals that a problem has recurred or that a new problem has arisen is an indication that the patient should be contacted for a further consultation at the Centre.

The results of any postal follow-up are evidently inferior to those obtained by direct interview. Staffing does not enable the latter to take place but an attempt has been made to minimise the margin of error by designing the form so that

CONFIDENTIAL

PF216

QUESTIONAIRE

Name..... Ref.....

1. Are you working ?	Yes No
2. Are you back at your original work ?	Yes No
3. If answer to question 2 is " No " have you been re-trained by the Ministry of Labour ?	Yes No
4. Are you earning more or less than you did before the onset of your disability ?	More Less Same
5. What is the general state of your health ?	Improved Same Worse
6. If you are not working, is the reason for unemployment due to	Disability ? Lack of jobs ?
7. If working, are you content and happy in your work ?	Yes No
8. If answer to Question 7 is " No " is the reason for your discontentment due to	Disability ? Unsuitable job ?
9. Is your original disability	Improved ? Same ? Worse ?
10. How soon after being discharged from Camden Road Rehabilitation Centre did you recommence employment or training ?	

Figure 65

Of total replies (382) of those discharged to original work

93.2% (82.7% were at original work
(10.5% were at different work
5.2% were not working

Of total replies (100) of those discharged to different work

75% (63% were still at different work
(12% were at original work
21% were not working

Follow-up six months after discharge:

79% of the patients replied to this enquiry.

Of total number (435) of those discharged to original work

67.4% (63.7% were at original work
(3.7% were at different work
3.7% were not working
26% did not reply.

Of total number (115) of those discharged to different work

52.1% (41.7% were still at different work
(10.4% were at original work
15.6% were not working
28.7% did not reply.

Of total replies (322) of those discharged to original work

91% (86% were at original work
(5% were at different work
5% were not working.

Of total replies (82) of those discharged to different work

73.1% (58.5% were still at different work
(14.6% were at original work
21.9% were not working

Follow-up twelve months after discharge:

68.1% of the patients replied to this enquiry.

After a year, many patients change their occupation for reasons completely unconnected with their disability. This is also true, but to a lesser extent, three and six months after discharge. Because of this the following figures were not divided as at three and six months.

Of total number of those discharged to original or different work (550)

47.6% were still working
7.9% were not working

Of total replies of those discharged to original or different work (326)

79.9% were still working
13.2% were not working

Within the limitations imposed by such a follow-up enquiry the following observations appear worthy of consideration. (They are based on the number of replies received and not on the total numbers of patients.)

(a) After three months, of those discharged to original work, 82.7% were at original work and 10.5% were at different work.
A total of 93.2% were still at work.

After six months, in the same group, 86% were at original work and 5% were at different work.
A total of 91% were still at work.

These figures suggest that further improvement took place during this interval allowing a greater number to resume their original employment. In both groups the percentage not working is practically identical (5.2% and 5%

respectively).

It cannot be assumed that this percentage is made up entirely of patients whose sole reason for not working was residual disability. A number may have been changing their occupation when the follow-up enquiry was received.

(b) After three months, of those discharged to different work, 63% were at different work and 12% had resumed their previous employment. A total of 75% were still at work.

After six months, in the same group, 58.5% were at different work and 14.6% had resumed their previous employment. A total of 73.1% were still at work.

These figures suggest that a number of patients who are discharged to different work resume their previous employment in the course of time. This is to be expected. A number of patients are found suitable temporary alternative work every week at the Centre as it is realised that the residual symptoms will disappear as rapidly at work as under treatment.

In these two groups the number of patients who are not working is again practically identical (21% and 21.9% respectively). Included in this figure are most of the patients with unstable disabilities who have had relapses in their condition but who work during remission periods. Also included are the patients who never settled down at their new work. There is no doubt that no patient should be advised to change work unless

it is unavoidable.

Patients not working remain under constant review, and each month the Disablement Resettlement Officer provides a list of all patients, referred to the Ministry of Labour, who are not yet in employment. This list consists of his own cases together with the cases referred through him to the Disablement Resettlement Officer, in the patient's own area. Such patients are reviewed regularly to ensure that no change in their condition, attitude or social circumstances has occurred which is preventing them from working. Many of these patients are very severely disabled and suitable vacancies are inevitably scarce.

It should be noted that total disability periods are not discussed in this Section. Such figures have been omitted because they are of interest only in relation to a particular disability and where corresponding figures are available for patients who have not undergone a course of medical rehabilitation. The Candidate has been unable to obtain reliable figures for comparison.

It is suggested that the analysis which has been presented includes the broad types of disabilities treated at the Centre, the age and sex distribution of the patients, the initial results of treatment, the average duration and some

and some relevant information in relation to the follow-up.

The importance of accurate recording is emphasised. Without it, no true assessment of the work of any organisation is possible.

S E C T I O N F I V E.

Conclusions:

The results recorded in the previous Section suggest that the type of organisation described produces better results than intermittent treatment which is not sufficiently intensive, controlled or carefully planned. In this respect the organisation of the Centre, modelled on the pattern first established in the Royal Air Force, implements the conclusions of the Piercy Committee Report (11) in relation to hospital services. Paragraph 42 of this Report emphasises the importance of the education of doctors and medical students to bring home to them "their responsibility for leadership in this field". The contribution which the Centre makes in this respect has been described in Section Two, page 47.

Paragraph 43 of the same Report states:-

"If in every physiotherapy department treatment were given which was intensive, planned for the individual patient and with a background of discipline, it might well be that attendances would be less prolonged and the need for staff thereby relieved."

The whole purpose of this Thesis is to stress the value of intensive treatment; the close control and discipline which has proved essential in

practice and has been accepted so willingly by the vast majority of patients.

Paragraph 44 of the Piercy Report points the trends in Occupational Therapy "towards treatment based more closely on activities akin to the daily work and experience of patients and the giving of advice and instruction on how to live with a disability should be encouraged."

The facilities available and the role of the Occupational Therapist have been described in Section Two, pages 41 and 65.

The observations in paragraph 44 of the Piercy Report could well have been written as a summary of this work at the Centre. This Report recommends the development of additional facilities for rehabilitation in either day or residential centres.

In paragraph 48 the Committee states that "The main need appears to be not so much for residential centres as for day centres like the rehabilitation unit at the Luton and Dunstable Hospital. The need for day centres of this kind within the Hospital Service was emphasised to the Committee by the three Royal Medical corporations in Scotland."

Paragraphs 55 to 57 of the Report inclusive stress the importance of resettlement clinics for two reasons. Firstly, because of their value in producing close co-operation between those engaged

in the work and secondly, as a "point of co-ordination for rehabilitation services". Such clinics are equivalent to the Remedial Meetings held twice weekly at the Medical Rehabilitation Centre and described in Section Two (p), Page 124.

It may be noted that no visit was paid by the Committee to the Medical Rehabilitation Centre, Camden Road, London. Indeed the Centre had been functioning for over a year when the Report was published.

The extracts from the Piercy Committee Report which have just been either summarised or quoted above appear to show that the aims, principles and methods of treatment adopted at the Medical Rehabilitation Centre are capable of adoption on a wider basis within the National Health Service.

The observations and statistics in Section Four (b) relating to compensation point to a growing problem. It cannot be overlooked that the whole social attitude towards illness has changed. Illness has become "respectable" and, with the many statutory benefits now freely available, may not necessarily prove to be financially unrewarding. Indeed the unskilled labourer disabled as the result of an accident at work, and with a large family, may find that the difference between his nett weekly wage and his total benefits is scarcely appreciable. He makes progress, initially, at the normal rate

until life becomes socially acceptable to him. When he is able to get about without real difficulty, go to the Cinema, visit his friends and attend hospital three times a week for about an hour for physiotherapy, his progress starts to slow down. It may be many months, in these circumstances, before he returns to work.

It is common knowledge that two patients of the same age, occupation and physical build, suffering from the same disability will not necessarily take an identical time to recover or achieve an equal functional result. Even when two such patients run exactly similar clinical courses and all investigations fail to show any anatomical or physiological difference between them, the results may still vary tremendously. Why is this the case?

The influences which can be brought to bear upon the patient can be investigated. It may be considered advisable before reaching a conclusion, to enumerate those which are particularly important. They can be divided into two main categories:-

(a) Influences inside the Hospital Service.

(b) Influences outside the Hospital Service.

(A) - <u>Influences inside the Hospital Service</u>

(i) <u>Medical Staff</u>:

Most patients accept as fact the slightest word of any doctor whom they

meet while in hospital or rehabilitation centre. Most doctors are aware of this but a few pass hasty judgments, pontificate about prognosis at an unreasonably early stage and fix in the patient's mind the idea of permanent disablement before there is any valid justification for so doing. This may be at least partly due to training and a failure to differentiate between physical and vocational handicaps. It is equally frequently due to a failure to assess the patient as a whole. This results in the prognosis being determined on clinical grounds alone and not in relation to the patient's personality and environment.

Many of the problems of rehabilitation and resettlement can in short, be traced back to the medical opinion, expressed within the first few days in hospital, that the "patient will never be fit for his previous occupation". This fact dominates the patient's mind and may well mitigate against his recovery.

(ii) Nursing Staff:

The entire organisation of an acute hospital produces an atmosphere of

dependency. The patient is protected in every possible way from any contact with normal independent existence. This is appropriate during the acute stage of any condition. However, it seems reasonable to conclude that as recovery proceeds the patient should be removed from this authoritarian environment, as soon as possible, otherwise he may acquire habits of dependency which are difficult to lose.

(iii) The Physiotherapist:

If the physiotherapist adopts a dynamic approach to the patient, good progress is likely. If a passive approach is adopted, with massage, heat and electrical treatment being used to the exclusion of active exercises, recovery will be delayed.

(iv) The Occupational Therapist:

The Occupational Therapist who develops a realistic approach to the patient will help to expedite his recovery. She should employ media appropriate to the patient's occupation and training, so far as is possible within her resources. By so doing she will have no difficulty in persuading

the patient that his work in bed or in the department forms an integral part of the programme of recovery. If an unrealistic approach is used, resistance to treatment is built up by the patient and recovery will inevitably be delayed.

(v) The Almoner:

A good almoner is invaluable in implementing a planned programme of recovery. No patient can be expected to concentrate his energies on recovery if he is worried about his home affairs, the payment of benefits, the fulfilment of hire-purchase agreements, the financial strain of travelling expenses for relatives and similar perplexities. All these problems should be resolved by the Almoner at the earliest possible moment, and the mind of the patient set at rest.

The Almoner is also the link between the patient and the many and varied government and voluntary agencies associated with the care of the disabled. Few people are aware of the facilities at their disposal unless enlightened by the Almoner.

(vi) The Relatives:

They occupy a neutral position and their influence on the patient extends over the whole period of his rehabilitation, from his admission to hospital to his return to work. Failure to obtain the help and co-operation of the relatives can be disastrous. Relatives frequently feel confused about the basic difference between "help" and "sympathy" and require guidance in this respect. They are interviewed regularly at the Centre.

(B) - Influences outside the Hospital Service.

(i) Family Doctor:

The family doctor can have a great influence on the patient's rate of recovery. Where he has the full confidence of the patient and an intimate knowledge of his home background and previous medical history, no one is in a better position to advise, encourage and assist him. Unfortunately, pressure of work frequently prevents this occurring and routine medical certificates can greatly prolong disability. The family doctor must be kept "in the picture" when a patient is referred to the Physical Medicine Department of a hospital or to an in-patient or out-patient Rehabilitation Centre. He must be in the

position to play his part in the vital timing of a patient's recovery programme.

The candidate has found, on occasions, that patients discharged from an in-patient rehabilitation centre as fit for work are given medical certificates of incapacity for a further two or three weeks, "as they have just come out of hospital". Some of these patients then fail to resume work as the peak of mental and physical conditioning has been missed by this means. The steps taken at the Centre to avoid this state of affairs are described in Section Two (p), page 127.

(ii) Employers:

If the employer has made it clear to the injured employee, from the first, that his job will be kept open for him the problems of that patient's rehabilitation will be materially reduced. Even if the employer has made it clear that he will keep an open mind until a later stage in the patient's treatment, problems are less likely to occur. The vast majority of employers do adopt one or other of these approaches to the patient, a few are un-co-operative and lack an appreciation of the problem, with unhappy results.

(iii) Fellow Employees:

If the patient has been a popular and respected member of an industrial community problems of reinstatement never arise. In some cases the other workers resent the return of a disabled person. They feel that he is not pulling his weight and that he is being given undue consideration by the management. This attitude usually develops after the patient has been back at work for a few weeks. In parenthesis, it may be observed that the attitude of the foreman is frequently crucial.

It is the Candidate's impression that the problems are, generally speaking, more acute in large concerns. In the smaller factory there are more personal human relationships present than in the large multiple concerns or Government Departments, hide-bound by rules and regulations. However, it is only fair to state that some Government Departments have been more than helpful in this respect, i.e.

> A young woman confined to her wheel-chair as the result of poliomyelitis had been employed on the second floor of a Government office. The Authorities assisted us in obtaining suitable lodgings on the ground floor near another branch. Arrangements were made there for her to work on the ground floor adjacent to cloakroom and canteen facilities.

The example of the employers in this case was invaluable in conditioning her fellow workers to accept her as a member of the staff.

(iv) Trade Unions and their Officials:

Most trade unions are very co-operative when they are approached concerning the resettlement of the disabled. There are, however, two exceptions. Firstly, the legal departments of certain unions are often too willing to help a patient to initiate a claim in Common Law against his employers. This in itself frequently delays recovery as it is unreasonable to expect a patient to make a whole-hearted attempt to achieve a full functional recovery while he is aware that his claim for damages will be settled in the light of his residual disability at that time. The long delays associated with legal proceedings are too well known to require elaboration here but these delays are a major stumbling block in the rehabilitation of patients who have been injured at their work and may have been persuaded or encouraged by the shop steward to claim for damages. This

aspect has already been elaborated in Section Four (B).

Secondly, the criteria in regard to age and experience in connection with the acceptance of disabled persons for training are very inflexible in certain trades. The printing and book-binding trades for instance agree to a quota for disabled trainees but the number eligible is conditioned by the general employment position in the trade at that time.

Certain unions cannot, however, be praised too highly for their generous contributions in money and in kind to hospitals, rehabilitation centres and individual patients.

(v) Disablement Resettlement Officer (D.R.O.)

This official of the Ministry of Labour and National Service has the responsibility of assisting a disabled person to find work in his own area. In the early years of the National Health Service the methods of selection and training were poor and the Piercy Committee [11] (paragraph 190) still considers the training inadequate. A D.R.O. may be a full-time or part-time officer and no other vocation is open to

him in this sphere. After a number of years (usually five, if full-time) he is promoted to a higher grade and his experience frequently lost. The contribution which the D.R.O. can make depends, in part, upon his knowledge of the types of work available in the area and upon his liaison with employers, industrial medical officers and welfare officers. Such contacts must take years to establish on a firm footing of mutual trust.

The good influence which a D.R.O. can have upon a patient is invaluable, but if he depends for his information solely upon the official medical report (form D.P.1.) he can do positive harm. In any case this form is designed to record disability, not residual capability, although it asks the doctor who completes it to assess function. The educational work at the Centre in this respect has been mentioned in Section Two, page 48, and the liaison of the D.R.O. has been outlined in Section Two (o), pages 121 and 122.

(vi) Industrial Rehabilitation Units:

These units are under the control of the Ministry of Labour and National

MEDICAL REHABILITATION CENTRE

152, Camden Road, London, N.W.1

Grading of the 1,325 patients who were discharged during the three years, 1955, 1956 and 1957

GRADE I Adequate, industrious, confident man.

GRADE II Relatively adequate, relatively industrious, relatively confident man who can be influenced.

GRADE III Absolutely inadequate, absolutely idle, completely lacking in confidence.

On Admission	On Discharge	
I	I	771 patients
II	I	168 "
II	II	348 "
III	I	1 patient
III	II	26 patients
III	III	11 "

Figure 66

Service. They serve two basic functions:-

(a) To re-accustom a patient to an industrial environment.

(b) To assess the patient's mental, physical and educational standards and advise him on resettlement which may involve training.

A sympathetic staff at such a unit is essential. It must be made clear to a patient that no training is carried out at an industrial rehabilitation unit. Training is carried out at Government Training Centres. Many doctors fail to distinguish between the two organisations and so confuse the patients.

(vii) County or Borough Councils:

If the officials of such Departments work closely with the other people concerned and handle the patients well their assistance is invaluable and their influence considerable. If they adhere rigidly to the regulations, spending months before reaching a decision, their influence is detrimental to the interests of the patient. The question of the provision of "aids to daily living" by untrained Welfare Workers has been enunciated in Section Two (n), page 117. On many occasions only the question of satisfactory accommodation stands between a patient and discharge from hospital or

residential rehabilitation centre. Equally, the same factor may stand between the patient and suitable work.

The Ministry of Health will not provide a motor-propelled invalid vehicle unless a garage or shed is available or can be erected with the permission of the local council. In this connection, the candidate recalls one patient who was prevented from working for over twelve months while a constant stream of letters ebbed and flowed between the Centre, the Ministry of Health and the Local Authority. The patient had almost five pounds a week in allowances so that the cost of this delay, exclusive of medical care, was approximately two hundred and sixty pounds.

The influences which have been mentioned suffice to show the significance of para-medical factors in relation to the rate of recovery. These influences justify the conclusion that a "total approach" to the problem is essential.

Group Captain O'Malley outlined a simple method of dividing patients into three dynamic grades which the candidate has found most useful in assessing the

probable outcome of treatment.[18]

Personality Grading (after O'Malley)

Grade 1 The adequate, industrious and confident man who will do some work whatever his disability.
Many blind, paraplegic and deaf patients fall into this category.

Grade 2 The relatively adequate, relatively industrious and relatively confident man who can be influenced. If the summation of the influences brought to bear upon him is beneficial he becomes "Grade 1". If it is detrimental he becomes "Grade 3".

Grade 3 This man is absolutely inadequate, absolutely idle and completely lacking in confidence. He represents the hard core of the disabled unemployables, a very small number of whom can be upgraded by enlightened rehabilitation and resettlement.

The Candidate has used this personality grading since the Centre opened. The results of an analysis based on the patients discharged between 1st January, 1955 and 31st December, 1957, are shown in figure 66.

It should be noted that the vast majority of these patients were Grade 1 both on admission and on discharge (771 patients). The next largest number consists of 348 patients who were Grade 2 both on admission and on discharge. This does not imply that they did not return to work but that a doubt remained as to whether their original attitude to their disability had altered. Only one patient out of 1,325 patients moved from Grade 3 to Grade 1. Only 38 patients were Grade 3. It can be concluded that this simple grading is

easily applied to patients and of value in reminding the staff of the importance of treating the patient as a whole.

The following basic requirements are essential if a medical rehabilitation centre is to provide the best possible service to the community. They have been discussed in various parts of this Thesis, but may be briefly summarised.

(i) Full medical examination is necessary prior to treatment.

(ii) The individual programme for each patient must be arranged so as to achieve the correct balance between rest and activity.

(iii) A medical rehabilitation centre must be under medical control.

(iv) There must be constant and full consultation with each referring authority. Direct liaison by means of visits should be encouraged.

(v) Every patient at a medical rehabilitation centre must be sent back to the referring authority for review when treatment is completed, accompanied by a report upon progress. This ensures continuity of control and allows the referring authority to evaluate the results of treatment.

(vi) The progress of each patient at a centre must be under constant review. Each problem is dynamic in character and can change without warning. The interaction of psychic and somatic factors needs no further elaboration.

(vii) There must be full co-operation between the staff of a centre and other bodies working in the same and allied fields.

(viii) There must be full collaboration amongst the staff of a centre.

The last two conclusions raise a wider issue.

In the past the emphasis has been on personal responsibility with the resultant isolation of the individual. In a complex modern society the responsibilities are too great for an individual to carry. The team approach can be defined as the capacity to appreciate the personal contribution in relation to that of others; in short, to recognise when a personal responsibility can be delegated to another. Such a concept of team work is implemented at the Centre and "man-management" constitutes a large part of the work of the Medical Director, his Deputy and the Rehabilitation Officer.

The Candidate recently discussed this point with a patient at the Centre who is the Headmaster of a well-known English Public School. He observed that a close parallel could be drawn between the work of the Candidate and his own. He considered the Centre to be an organisation which educated patients to overcome or minimise their disabilities; to make the most of their talents, and to take their proper place in the world outside.

An attempt has been made in this Thesis to show that intensive medical rehabilitation is necessary. The social and economic value of such procedures can be summarised as follows:-

(i) <u>Humanitarian considerations</u>:

A society which spends large sums of money on medical research to prolong life has an additional responsibility to make life worth living. Pensions,

Insurance Benefits, National Assistance and Charity are not enough. Human beings who have been disabled, have a right to live and play. They should be enabled, if possible, to live an independent existence in a normal community.

(ii) Reduction of disability periods:

A system of planned rehabilitation reduces the duration of disability. This is illustrated by the case histories in Section Three (1). There is always strong pressure to empty a hospital bed. The drive to terminate traditional out-patient treatment is seldom so apparent.

(iii) Economic value of rehabilitation:

The weekly cost of treating a patient at the Centre has been shown to be about a quarter of that required to keep a patient at a non-teaching hospital and about a sixth of the cost of keeping a patient at a teaching hospital in the London area. (See Section One (d) page 30). Certain teaching hospitals send patients daily to the Centre because adequate rehabilitation facilities are not available within the hospital and thus use their expensive beds virtually as hostel-type accommodation. The staff patient ratio at the Centre is one to four compared with the hospital ratio of one to one.

It is submitted that the provision of recovery beds and rehabilitation facilities at or near all large hospitals would diminish the cost of the Health Service. Such facilities would also diminish expenditure on a National basis. The cost of delaying return to work also includes the value of the various benefits to dependents, the loss of industrial productivity and the probable loss of Income-Tax.

Finally it can be concluded that it is relatively unrewarding to treat disabilities but very rewarding to treat people with disabilities; people with aches and pains, doubts and despairs, relatives and friends whose total situation determines their reaction to their disablement.

Speaking at the Second Annual Meeting of the Inter-Allied Conference on the After-care of Disabled Men in London, May 20th - 25th, 1918, John Galsworthy said:-

> "A niche of usefulness and self-respect exists for every man, however handicapped; but that niche must be found for him. To carry the process of restoration to a point short of this is to leave the cathedral without a spire."

That sentiment, expressed forty years ago, has been reinforced by the stresses of modern times. The approach to medical rehabilitation cannot be isolated but needs to be increasingly projected against the whole background of modern progressive medical practice.

A P P E N D I X "A"

(a) Plans for combined in-patient and out-patient Medical Rehabilitation Centre.

The Candidate is indebted to Mr.D. Bigmore, a Fifth year student of the Northern Polytechnic, London, Day School of Architecture who drew the enclosed diagrammatic layout and plans, two, four and seven. He was working in the Architect's Office at the North West Metropolitan Regional Hospital Board and decided to produce plans for a centre which would handle 150 in-patients and 50 out-patients per day. He spent a considerable time at the Medical Rehabilitation Centre and obtained his basic information from the staff. The full set of plans are not included, only those sufficient to indicate the "ideal" layout.

(b) Plan for a new out-patient Medical Rehabilitation Centre:

This diagram represents the layout necessary for a purely out-patient medical rehabilitation centre, adjacent to a hospital, and capable of dealing with 150 patients per day. It is the result of many discussions between Mr.B.Mee, the Rehabilitation Officer at the Medical Rehabilitation Centre,and the Candidate. This layout assumes that lunch

would be provided in the hospital but the necessary facilities could be added to this plan to make the centre entirely independent.

An attempt has also been made to arrange the facilities so that a good functional flow, as described in Section Two, page 38, is achieved.

A bath is provided in each main changing room, firstly, to assess patients' problems in relation to bathing, and secondly, to provide such facilities for patients who have no bath at home.

Abbreviations used in plan:

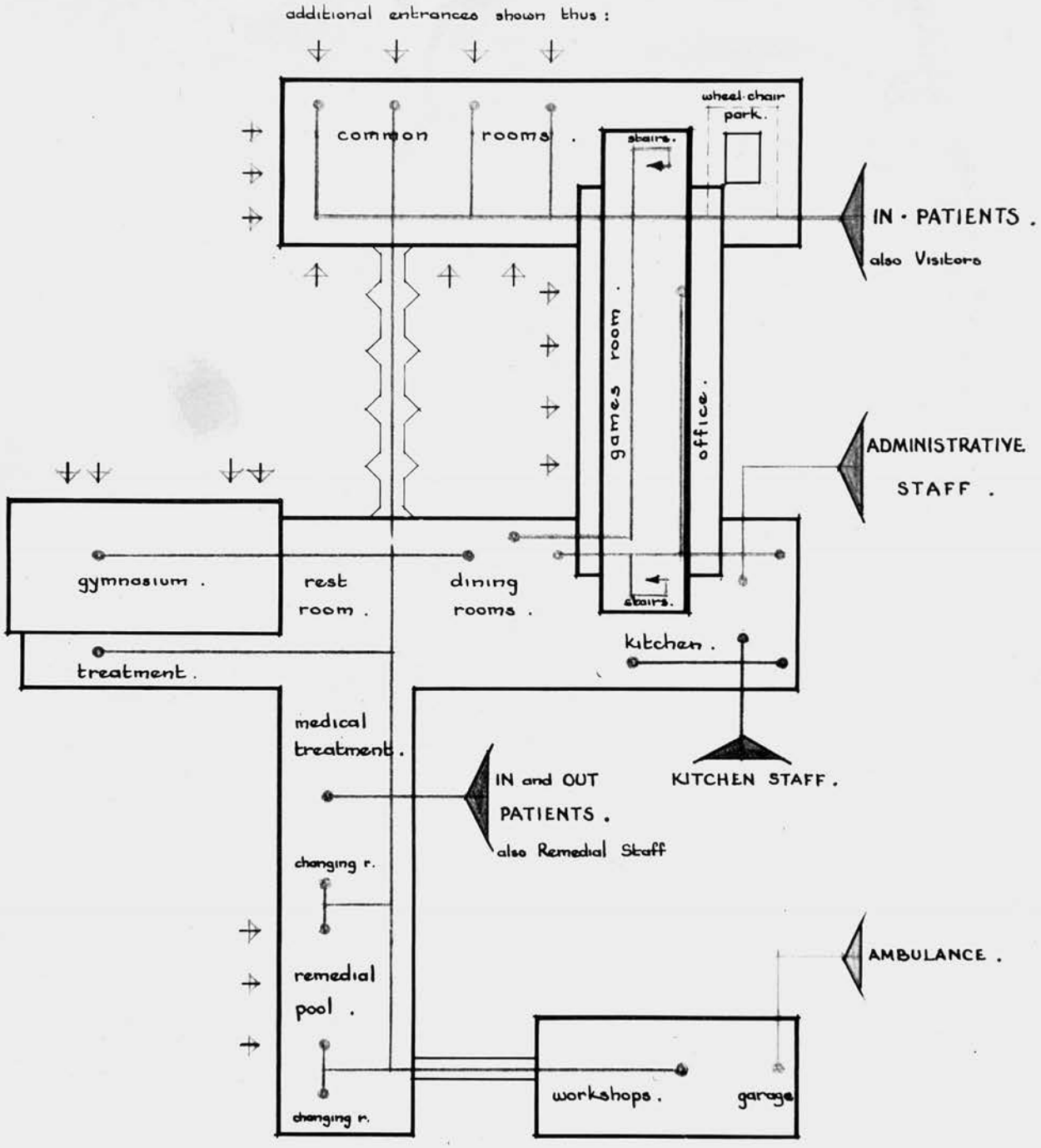
A.D.L.Room - Room for assessing activities of daily living - see Section Two, page 44.

Const.Room - Consulting Room with couch, etc.

Light O.T. - Light Occupational Therapy workshop.

S.S.O. - Social Service Officer.

T - Toilet.



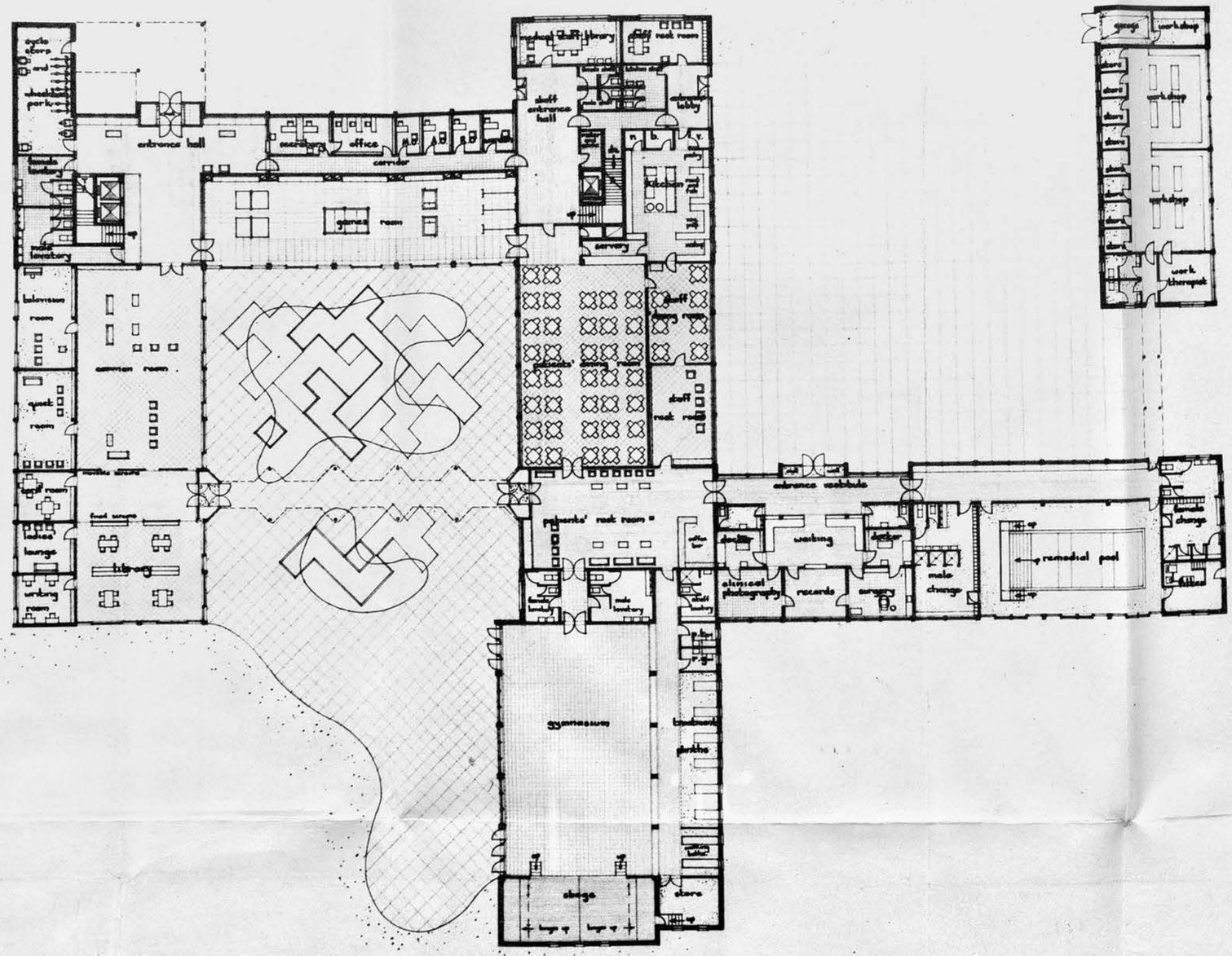
DIAGRAMMATIC LAYOUT
showing the
CIRCULATION in the CENTRE .

MEDICAL REHABILITATION CENTRE

Scale of Feet . ⅛" = 1'0" .

2

ground floor plan

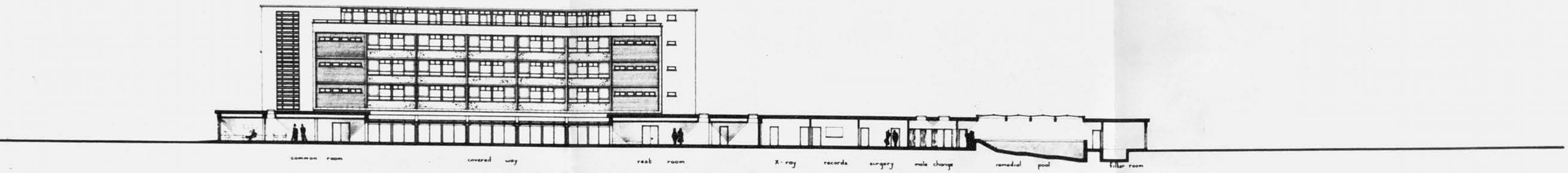


MEDICAL REHABILITATION CENTRE .

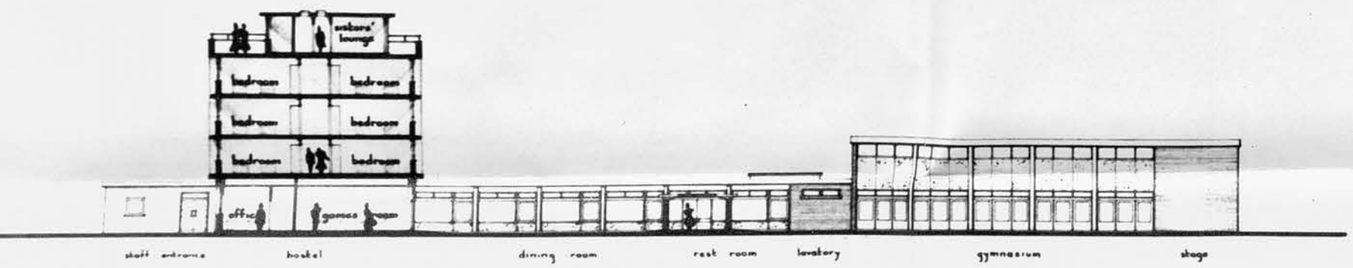
Scale of Feet . 1/16" - 1'0" .

4

SECTIONS .



SECTION A - A .



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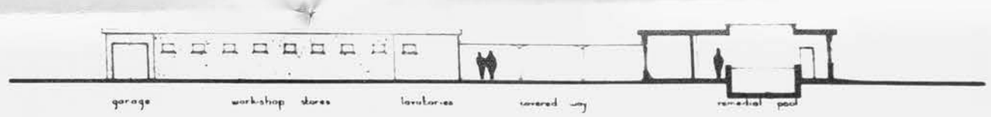


SECTION C - C .

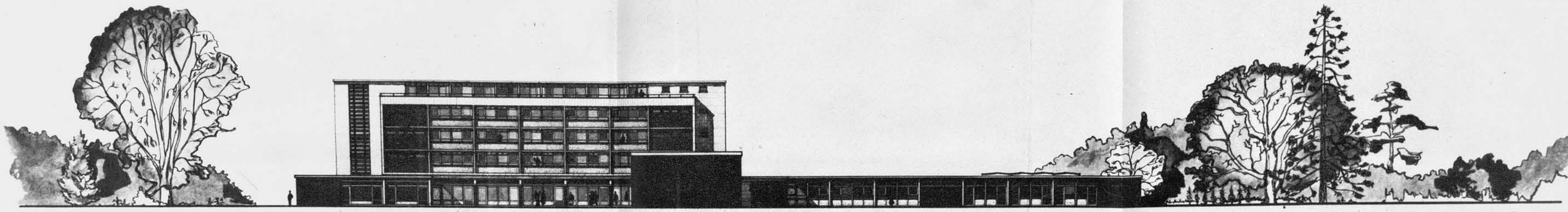
D . BIGMORE .

MEDICAL REHABILITATION CENTRE .

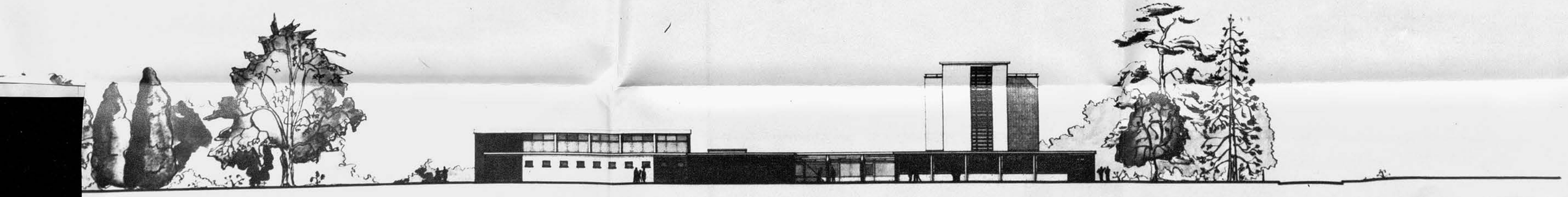
Scale of Feet . 1/16" - 1'0" .

7

south-east and north-east elevations.



SOUTH - EAST ELEVATION .



NORTH - EAST ELEVATION .

D . BIGMORE .

Proposed Layout for New Out-Patients' Centre

Grass

Industrial Gymnastics

GYM "C"

GYM "B"

Therapeutic Pool

GYM "A"

Gym Store

Sticks & Crutches

O.T. Store

GYM "D"

Physiotherapy Dept.

Light O.T.

Office

Store

Heavy O.T.

T. T. ← Store

T.

SPACE for STAGE

T. S.S.O. Doctor Const. Room Sister Const. Room Doctor S.S.O.

Conference Room

Male Staff.

Female Staff.

T.

Instrument Shop

Reception

Rehab. Officer

Canteen

Waiting Room

Lounge

Reception

Rest Room

Common Room

Speech Therapy

Male Changing Room

A.D.L. Room

T.

Clothing Store

T.

A.D.L. Room

Female Changing Room

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